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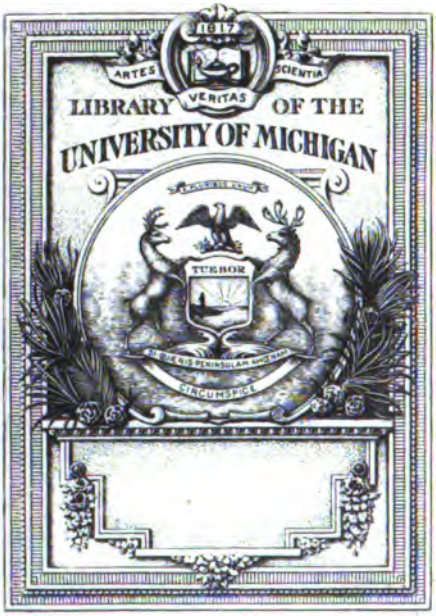

THE GIFT OF
H. S. Jewett

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MANUAL OF BOTANY,

FOR

NORTH AMERICA:

CONTAINING

GENERIC AND SPECIFIC DESCRIPTIONS

OF THE INDIGENOUS PLANTS AND COMMON CULTIVATED EXOTICS

GROWING

NORTH OF THE GULF OF MEXICO.

BY AMOS EATON, A. M.,

Senior Prof. in Rensselaer Institute, and Prof. of Civil Engineering; Member of the American Geological Society; Acad. Nat. Sci. Phil.; N. York Lyc. Nat. Hist.; Albany Inst.; Troy Lyceum Nat. History. Also, of the more recently established learned Societies of Hudson, Utica, Detroit, Newburgh, &c.

"That existence is surely contemptible, which regards only the gratification of instinctive wants, and the preservation of a body made to perish."—*Linnæus.*

SEVENTH EDITION,

With an improved and modernized GRAMMAR and DICTIONARY; and about 500 new Species, chiefly from the Oregon and Arctic regions.

ALBANY:

PUBLISHED BY OLIVER STEELE,

And for sale by Grigg & Elliott; Carey & Hart; Desilver, Thomas & Co.; Hogan & Thompson, and N. Hunt, Philadelphia: B. & S. Collins; N. & J. White; G. & C. Carvill & Co; S. Wood & Sons; Robinson, Pratt & Co., and Leavitt, Lord & Co., New York: Hilliard, Gray & Co., and Marsh, Capen & Lyon, Boston; W. S. Parker & Son, and Z. Clark, Troy.

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1836.

Entered according to the Act of Congress, in the year 1836, by OLIVER STEELE, in the Clerk's Office of the District Court of the Northern District of New-York.

PREFACE.

When the sixth edition of this Manual was published, it was the intention of the Author never to make any alteration in the plan of the work. Books used in the classes of public institutions ought to be as nearly uniform as the progress of science will admit. But the objections to the exclusion of the Grammar and Dictionary from the last edition, were too numerous and from sources too respectable, to pass by unheeded. It is again published, with extensive corrections, and the addition of all the current and approved modern terms.

A *Labelling Catalogue* according to the Natural Method, exhibited in the form of a systematical synopsis, is prefixed to the generic descriptions. This was so much needed, that the inconvenience of change in arrangement seemed not a sufficient objection.

The rapidity of travelling by steam-boats, rail-roads, and canal packets, has brought Canada and New Orleans, Boston and St. Louis, into comparatively close contiguity. The increasing practice, among students and devotees, in distant districts, of exchanging preserved specimens of plants, and the great efforts made by gardeners and seedsmen, to supply us with the more distant and rare species of our continent, demanded a greatly extended Flora. The Author has endeavored to meet this demand, by adding almost five hundred new species from the Arctic and Oregon districts, and from newly explored districts nearer home.

The Artificial System is still retained, for the analysis of genera and species. The Author's esteem, and even veneration, for the Natural Method is sufficiently tested by former editions. The first edition was the first attempt in this country, at uniting the advantages of the artificial and natural methods, in which the author was guided by the catalogue of the highly esteemed Correa de Serra. All that is artificial, now to be found in this edition, is less than one fifth of the artificial part of Lindley's Natural Method. [See Torrey's Lindley, published New York, 1831, page lxix to lxxix.]

The celebrated Hooker (one of the most eminent botanists of the present age) applies the Natural Method in his *Flora Boreali Americ-*

næ, wherein he writes in Latin for learned botanists. But in his system of British plants, written in English, he adopts the Linnean Artificial System in all its rigor; even retaining the original twenty-four classes. On this subject he says: "The experience of nearly one hundred years has proved to every unprejudiced mind, that no system has appeared which can be compared with that of the immortal Swede (Linneus) for the facility with which it enables any one, hitherto unpractised in botany, to arrive at a knowledge of the genus and species of a plant."

I would ask whether any botanist, who is in the habit of analyzing plants, however opposed to the Linnean system, uses any other system for finding out the name of a plant, previously unknown to himself? Is it not a faithful guide on journeying to the Elysian fields of Vegetable Physiology? According to Lindley, it is a mental rail-road on which students may be impelled along, without any material exertions of their own.

The two systems are not in opposition to each other, and cannot be contrasted with any more propriety, than a part can, in any case, be compared with the whole; as one is but an auxilliary to the other. The Natural Method is the *grand climacteric in Botanical science*, and the Artificial System is the *brightest epoch of its youthful pupilage.*

It ought to be understood that from the beginning of the Author's services in the cause of Botany, he has never aspired to any thing above that of *teacher, translator* and *compiler.* He has made but few new discoveries and constructed but few species. Hence his Manual has consisted of a series of advertising sheets for aspiring botanists, and a repository of their discoveries.

He has however, improved the description of more than six hundred species, by an immediate inspection of the plants while growing in the field. In doing this, he did not re-describe; but merely changed, added, or expunged a word or figure, as the case required. And even these trivial improvements were mostly made in consequence of suggestions, first made by his pupils during their analyzing exercises.

It is customary to make acknowledgments for most important favors received in aid of difficult and laborious treatises. In addition to such acknowledgments made in former editions, the following are subjoined.

By way of *catalogues* and *periodicals* carefully conveyed by their respective authors, numerous valuable additions have been made. The author's very particular friend, (to whom he is deeply obligated in a matter of extraordinary sympathy and personal kindness,) Prof. C. W. Short, and the author's esteemed pupil, Prof. Peter, of Kentucky, have

furnished valuable auxiliaries. And his pupil, Adj't. Prof. J. L. Riddell, of Cincinnati, has been his chief guide in drawing the line between the Eastern and Western regions. The value of the Catalogue of Mr. Gibbs, of Columbia, S. C., kindly sent by the author, was in a great measure lost on account of its being received too late.

The new Carexes of Prof. Dewey, published in the 29th vol. Silliman's Journal, have now extended that vast genus, probably to near the verge of its extreme limit. Nuttall's new plants, published in the 7th vol. of the Journal of the Philadelphia Acad. Nat. Sci., have greatly enriched this Manual.

By way of *authors* more was derived from Hooker's Flora Borealis Americanæ, than from all other sources. Almost the whole of the first vol. and the 1st No. of the second vol. have been translated and incorporated with this edition, so far as to take in the essential specific characters. Young classic students ought to read Hooker's Latin descriptions, as one of the best specimens of modernized Latin. His article including *Cruciferae* appears to be without a parallel. De Candolle was followed to the end of his 4th vol. His *Umbelliferae*, have been taken for a guide in collating species under their respective genera; which has been a subject of so much perplexity for many years. The author has freely used Dr. L. C. Beck's Botany of the Northern and Middle States, incorporating whatever his purpose required. And it should be added, that he kindly threw open to the author his excellent Botanical library; which was a very timely auxilliary.

The author's immediate personal assistants were Prof. James Hall, of the Rensselaer Institute; and the authoress of the Botanical Teacher.* The former selected and translated most of the new species; and the latter executed (under the supervision of the author) the very thankless task of correcting and improving the Botanical Dictionary, attached to this work: chiefly from the latest publications of Lindley.

A few words on the present state of Botany in this country, *as a subject of study*, may not be misplaced here. The number of students in botany has greatly increased and is daily increasing; but it is not as

*The Botanical Teacher is most perfectly adapted to all cases where a small, cheap system is wanted; particularly as it is the only one of American Botany. It gives concise descriptions of all the *genera* of Phenogamous plants and ferns, of this Mannal. Also of all the *species* by a set of abbreviations which can be learned in one hour. A concise outline of Phisiology and of the Natural Method is also given in it. Expense less than one dollar.

well taught in most of our large schools at this date, as it was in the same, and in similar, schools six or seven years since. At that time, plants were collected and analyzed by students, and extensive herbaria were made by them. In truth no one was deemed a botanist, without a correct knowledge of a few hundred species of plants. Now a few "said-off" lessons from elementary treatises, without any exercises with specimens, or with very superficial ones, seem to be all that is required in some schools of considerable celebrity, where botany is *professedly* taught.

In regard to some peculiarities in the literary part of this treatise, it should be said: that they are the rusult of rigid economy. Greek words are in italics; because few printers are provided with Greek types. The Latin dipthongs æ and œ are often expressed in separate letters. Capitals are not used for proper-name species, for the same reasons.

Rensselaer Institute, Troy, March 22, 1836.

DIRECTIONS.

You are desirous to understand the science of HOROLOGY; that is, the general structure and comparative values of all the time-keepers now and heretofore in use. You would find it necessary first to learn the names of all the kinds, so as to be able to distinguish them at sight. You would not stop to study the first clock you meet with, in all its detail of parts and their adjustment to each other. You would first merely examine just diagnostic characteristics enough to distinguish clocks, watches, dials, sand-glasses, &c. Then you would learn to distinguish, by the most convenient and striking parts, all the known species of watches, of clocks, of dials, of sand-glasses, &c. Having thus learned the names of the species of time-keepers, proposed to be studied, you would be prepared to enter upon the study of all their internal movements, relations of parts, comparative merits, &c. So far you would be guided by rules analagous to the Linnean Artificial System. From this point you start with what is equivalent to the Natural Method. It would be an idle attempt to search out the general laws which govern the movements of all the time-keepers moved by machinery, when you had no knowledge, even by name, of any species of that order of time-keepers, but of the patent wooden clock. And it would be infinitely more absurd to attempt the study of the physiology and natural affinities of plants, before you had obtained any knowledge, even of the names of a suitable number of individuals.

The natural inference then is, that you must know a considerable number of plants by name and general appearance (called the habit) before you enter any further into the physiological view of vegetable nature.

This treatise is so arranged as to call the attention of the student to as few organs and technical terms as can subserve the exercise in analysis, for the purpose of ascertaining the name of a plant. At the end of every genus, however, he is referred to the Natural Method; that he may, at pleasure, commence or extend his physiological researches.

After a few hundred species are thus far known (even one hundred will authorise a commencement, under an experienced teacher) the Grammar of Botany, attached to this Manual, may be studied to advantage, including in succession the Natural Method.

No one can ever be a thorough botanist without subjecting himself to the exercise of preparing an herbarium. The method of doing this is best learned by inspecting an herbarium, and receiving a few words of explanation. The learner is particularly requested to have his plants labelled when first put into press, and to read the label of each plant and to inspect it closely, every time he changes the papers. In this manner he will soon establish such a strong association between the name and the habit of the plant, that it never can be forgotten. It is also particularly enjoined, that plants be arranged in the herbarium, according to the Natural Method. The numbers of Jussieu, with the letter indicating the sub-order, according to the synopsis, pages 24 to 36, will be found exceedingly convenient.

Attentions of the most trivial kind often afford unexpected advantages to collecting students. One is the following. Let your first label be large, and always write on it the particular locality, the day of the month when collected, the generic and specific name. And it is advisable that the kind of soil, whether moist, dry, in woods, open fields, &c., be added. And it will greatly facilitate the process of arranging specimens in the herbarium, to set down the number of the artificial class and order and the natural order thus: 5—1. Viola, 47. This will save all the labor of turning to the Manual to find a forgotten class, order, &c.

Plenty of absorbing paper, pressing with a force equal to about 50 or 60 pounds, and frequent changing of plants into dry papers, are to be considered as essential to a good herbarium.

NUMBER OF GENERA DESCRIBED IN THIS MANUAL.

Phenogamous and Ferns,	Indigenous,	946	
	Exotic,	80	
	Ferns,	28	1054
Lower orders of Cryptogamia,			237
	Total Genera,		1291

NUMBER OF SPECIES DESCRIBED IN THIS MANUAL.

Phenogamous and Ferns,	Indigenous,	4558	
	Exotic, cultivated,	396	4954
Lower orders of Cryptogamia,			901
	Total species,		5855

ABBREVIATIONS AND CHARACTERS.

Authors' names, who first determined a Genus or Species.

Ach. Acharius—A. Aiton—B. and Bart. Barton—Bk. Beck—Bl. Bridel—Bw. Bigelow—Br. Robert Brown—Cates. Catesby—C. Curtis—D. Desfontaines—Dc. De Candolle—Dn. Darlington—Ds. Desveaux—E. Elliott—Ea. Eaton—Eh. Ehrhart—Fos. Foster—Gn. Gmelin—G. Gronovius—H. Hedwig—Hn. Hoffman—Hr. L'Heritier—Hk. Hooker—J. James—Ju. Jussieu—Jn. Jacquin—L. Linneus—Lb. Lambert—Lk. Lamarck—M. Muhlenberg—Mx. Michaux—Mn. Moenchausen—Mr. Murray—N. Nuttall—Pall. Pallas—P. Persoon—Ph. Pursh—Pt. Poiret—Poit Poiteau.—Pb. Palisot de Beauvois—R. Rafinesque—Retz. Retezius—Rs. Roemer and Shultes—Rd. Richard—S. Smith—Scop. Scopoli—Sl. Sprengel—Sr. Screber—Sy. Salisbury—Sw. Swartz—Sh. Schkuhr—Sz. Schwinitz—Sp. Sibshorp—T. Torrey—Tt. Tournefort—Tr. Turton—V. Ventenant—Wh. Wahlenburg—W. Willdenow—Wr. Walter—Wm. Wangenheim.

The Genera are arranged according to the Natural Method from 24—36. At the end of each genus is an abbreviation of the author's name, who constructed the genus.

At the end of each species, from page 139 to 599 is an abbreviation of the author's name of each species, excepting those constructed by Linneus. At least, this is intended: but there are numerous omissions.

Time of Flowering, Duration, Color, and average Height.

Time of Flowering.

Ap. April—M. May—J. June—Ju. July—Au. August—S. September—Oc. October.

Duration of Plants.

☉ annual—♂ biennial—2ɻ perennial—ħ woody.

Color of Corols.

r. red—p. purple—y. yellow—w. white—b. blue—g. green.

Height of Plants.

A figure at the end of a specific description with i. signifies its most common height in inches—with f. in feet.

LOCATION OF SPECIES.

Species standing next to the generic name, grow North of the state of Virginia.

S. at the end of a specific description indicates that it grows South of the North line of Virginia, as well as North.

W. (capital) within the parenthesis after a species, indicates, that it grows West of the Allegany range and its continuation through Cayuga Lake, &c.—also East of the West line of Missouri and Arkansas.*

*This limit is authorised by Drs. Short, Peter, Riddell and Lock.

A. (capital) within said parenthesis, indicates that it is Alpine, or that it prefers mountainous districts.

L. (capital) within said parenthesis indicates, (Littoribus) that it prefers the sea-shore.

O. (capital) within said parenthesis, indicates (Omnibus locis) that it is throughout the Northern and Southern States.

CAPITALS SET AT THE END OF SPECIFIC DESCRIPTIONS, INDICATING PARTICULAR LOCALITIES.

B. Boston, Mass. Bigelow.
C. Connecticut, particularly N. Haven. Ives, Tully, Eaton.
D. Detroit and N. W. Lakes. Cooly, Houghton, James.
F. West Chester Co., N. Y., particularly North Salem, Fairfield Co., Conn. Dr. Mead.
H. Harrisburgh, &c. Allegany range in Vir. and Penn. Aikin.
K. Kentucky, particularly Lexington. H. H. Eaton, Short, Peter.
M. Maryland particularly Frederick. Aikin.
N. Northampton, Amherst, Deerfield, Mass. Hitchcock, Cooley.
O. Ontario Co., particularly Gorham, &c. Aikin.
P. Philadelphia and Chester. Darlington and Barton.
T. Troy, N. Y. The Eatons, Aikin, Hall, Wright,
V. Rutland county, Vt., and Washington county, N. Y. Eaton, Stevenson, Fitch.
W. Williamstown, Mass. Dewey, Eaton and Emmons.
Y. New-York and 50 miles about the city.

Arctic, Rocky Mt. and Oregon, Species.

A. Arctic, growing near or within the Arctic circle.

R. On the Rocky Mt. or west of it: or between the Mt. and the states of Missouri and Arkansas. These distant localities will not embarrass the student; because a solitary R. or A. will, at first glance, indicate, that such species are not to be expected elsewhere.

Dalea (dailey) will be found at p. 672. Pickeringa at p. 438. Pitchera at p. 441.

SYNOPSIS OF TAXONOMY,

COMPRISING

THE ARTIFICIAL AND NATURAL METHODS OF LINNEUS AND JUSSIEU.

Terms most essential in Taxonomy, systematically arranged.

CLASSES, ORDERS, and GENERA, are distinguished by the organs of fructification. Elementary organs of Fructification are,

1. *Calyx.* The outer or lower part of the flower, generally not coloured.*
2. *Corol.* The coloured blossom, within or above the calyx.
3. *Stamens.* The organs immediately surrounding or adjoining the central one: consisting of mealy or glutinous knobs, either sessile or supported on filaments.
4. *Pistil.* The central organ of the flower, whose base becomes the pericarp and seed.
5. *Pericarp.* The covering of the seed, whether pod, shell, bag, or pulpy substance.
6. *Seed.* The essential part, which contains the rudiments of a new plant.
7. *Receptacle.* The base which sustains the other six parts, being at the end of the flower stem.

SUBDIVISIONS OF THE CALYX.

Every calyx is either *monophyllous*, consisting of one leaf; or *polyphyllous*, consisting of more than one leaf. The divisions of the calyx are called *leaves*, or *segments*, in old authors; but they are called *sepals* by many late authors.

1. *Perianth.* That calyx which adjoins and surrounds the other parts of the flower, as of the apple, rose &c.

   About two thirds of all plants have perianths.

2. *Involucre.* That calyx which comes out at some distance below the flower, and not enclosing it. It is commonly at the origin of the peduncles of umbels, and sometimes attached to other aggregate flow-

*In the language of Botany, any part of a plant is not coloured when it is green; as the calyx of the apple is said not to be coloured, because it is green, and that of the nasturtion is coloured, because it is not green.

ers. Hooker and many others, call the common calyx of a compound flower an involucre; as of the dandelion.

Involucres are either *universal*, placed at the origin of the universal umbel, as in caraway, lovage, &c.; or *partial*, placed at the origin of a particular umbel, as in coryander; or *proper*, placed beneath a single flower.

3. *Spathe.* A kind of membrane which at first encloses the flower, and after it expands is left at a distance below it, as daffodil, onion, Indian turnip.

4. *Glume.* That kind of calyx which is composed of one, two, or three valves or scales, commonly transparent at the margin, and often terminated by a long awn or beard. All grasses have glume calyxes. Glumes are physiologically bracts; but they are treated as leaves of the calyx in the descriptions of genera.

5. *Ament.* An assemblage of flower-bearing scales arranged on a slender thread or long receptacle; each scale generally constituting the lateral calyx of a flower, as in the willow, chesnut, pine, &c. The hard scaly ament of pine trees, and the like, is called *strobile*, or cone.

6. *Calyptre.* The cap or hood of pistillate mosses, resembling in form and position an extinguisher set on a candle. Conspicuous in the common hair-cap moss.

7. *Volva.* The wrapper at first enclosing the pileus or head of a fungus, (toad-stool) and which after the plant has arrived to maturity, contracts and remains on the stem at the root or foot of the stipe. Some toad-stools have a *veil, (velum,)* at the edges of the cap or head, which was at first attached to the stem by the lower edge. Some have a *ring (annulus)* on the stem, which was at first a part of the veil.

Subdivisions of the Corol.

Every corol is either *monopetalous*, consisting of one petal or flower-leaf; or *polypetalous*, consisting of more than one.

1. *Perianth.* That calyx which adjoins and surrounds the other parts of the flower, as of the apple, rose, &c.
About two thirds of all plants have perianths.

2. *Involucre.* That calyx which comes out at some distance below the flower and never encloses it. It is commonly at the origin of the peduncles of umbels, and sometimes attached to other aggregate flowers. Involucres are either *universal*, placed at the origin of the peduncles of umbels as in caraway, lovage, &c.: or, *partial*, placed at the origin of a particular umbel, as in coriander; or *proper*, placed beneath a single flower.

3. *Spathe.* A kind of membrane, which at first encloses the flower, and after it expands, is left at a distance below it, as daffodil, onion, Indian turnip.

4. *Glume.* That kind of calyx which is composed of one, two or three, valves or scales, commonly transparent at the margin, and often terminate d by a long awn or beard; all grasses have glume calyxes.

Polypetalous Corols are,

1. *Cruciform.* Consisting of four equal petals spreading out in the form of a cross, as radish, cabbage, mustard, &c.
2. *Caryophylleus.* Having five single petals, each terminating in a long claw, enclosed in a tubular calyx, as pink, catch-fly, cockle, &c.
3. *Liliaceous.* A corol with six petals, spreading gradually from the base, so as altogether to exhibit a bell-form appearance, as tulip, lily, &c.
4. *Rosaceous.* A corol formed of roundish spreading petals without claws, or with extremely short ones, as rose, apple, strawberry, &c.
5. *Papilionaceous.* A flower which consists of a banner, two wings and a keel, as pea, clover, &c. supposed to resemble a butterfly.

If a corol agree with none of the above descriptions, it is called *anomalous.*

SUBDIVISIONS OF THE STAMEN.

1. *Anther.* The knob of the stamen, which contains the pollen; very conspicuous in the lily, &c. Never wanting.
2. *Pollen.* The dusty, mealy, or glutinous substance contained in the anthers. Never wanting.
3. *Filament.* That part of the stamen which connects the anther with the receptacle, calyx or pistil. Often wanting; generally thread-form when present.

SUBDIVISION OF THE PISTIL.

1. *Stigma.* The organ which terminates the pistil; very conspicuous in the lily, and hardly distinguishable in the filament (silk) of the Indian corn. Never wanting.
2. *Germ, ovarium.* That part of the pistil which in maturity becomes the pericarp, as in the cherry, pompion. Never wanting. It encloses the ovula, which are the seed when mature.
3. *Style.* That part of the pistil which connects the stigma and the germ; very conspicuous in the lily; wanting in the tulip.

SUBDIVISION OF THE PERICARP.

1. *Silique.* That kind of pod which has a longitudinal partition, with the seeds attached alternately to its opposite edges, as radish, cabbage, &c.
2. *Legume.* A pod without a longitudinal partition, with the seeds attached to one suture only, as the pea, &c.
3. *Capsule.* That kind of pericarp which opens by valves or pores, and becomes dry when ripe, as the poppy, which opens by pores and the mullein by valves.
4. *Drupe.* That kind of pericarp which consists of a thick fleshy or cartilaginous coat enclosing a nut or stone, as in the cherry, in which it is said to be *berry-like;* and in the walnut, where it is *dry.*

5. *Pome.* A pulpy pericarp without valves which contains within it a capsule, as apples, quinces, &c.
6. *Berry.* A pulpy pericarp enclosing seeds without any capsule, as currant, grape, cucumber, melon.
7. *Strobile.* An ament with woody scales, as the fruit of the pine.

Subdivisions of the Seed.

1. *Cotyledon.* The thick fleshy lobes of seeds; very manifest in beans, whose cotyledons grow out of the ground in the form of two large succulent leaves. Many plants, as Indian corn, wheat, the grasses, &c. have but one cotyledon; mosses, &c. none. The part, or organ, producing the new plant (performing the function of a seed) is called a *sporule* in all cryptogamous plants; as toadstools, mosses, &c.

Cotyledons are *incumbent*, when their backs are presented to the radicle; and *accumbent* when their edges are thus presented.

2. *Embryo, corcle.* The rudiment of the future plant embraced in the seed. It consists of the *radicle*, which becomes the root; the *plumula*, which becomes the herbage; and the *collet*, or *cauliculus*, which is a kind of neck uniting the radicle and plumula, and becomes the part of most plants just at the surface of the earth, where the root and stem take their respective directions upwards and downwards.
3. *Tegument*, or *integument.* The covering or bark of the seed.
4. *Albumen.* This is not found in all seeds. When it is present, it is the dense part included between the tegument and embryo. It constitutes the chief of a kernel of Indian corn, and of some other monocotyledonous seeds. But it is often small, and is never present in peas or beans; the thick fleshy part of such seeds being the rudiments of cotyledenous leaves, which expand before the plumula ascends from between them.
5. *Hilum*, or *umbilicus.* The external mark, scar, or eye; being the place where the seed is connected to the point or placenta, from which it grows.

Subdivisions of the Receptacle.

1. *Proper.* That which belongs to one flower only.
2. *Common.* That which connects several distinct florets as in the sunflower, daisy, teasel. A common receptacle may be,
3. *Rachis.* The filiform receptacle, connecting the florets in a spike, as in the heads of wheat.
4. *Columella.* The central column in a capsule, to which the seeds are attached.
5. *Spadix.* An elongated receptacle, proceeding from a spathe, as Indian turnip.

General Divisions of Flowers.

1. *Simple.* Having a single flower on a receptacle, as in the quince, tulip, &c.

2. *Aggregate.* Having on the same receptacle several flowers, whose anthers are not united, as teasel, button-bush, &c.

3. *Compound.* Having several florets on the same receptacle, with their anthers united, as sun-flower, china-aster, &c.

4. *Staminate.* Having stamens only, as those in the tassels of Indian corn.

5. *Pistillate.* Having pistils only, as the fertile flower of the cucumber.

6. *Perfect.* Having both stamens and pistils.

7. *Neutral.* Having neither stamens nor pistils.

8. *Complete.* Having a calyx and corol, as well as stamen and pistil.

Inflorescence.

The manner in which Flowers are situated on Plants.

1. *Whorl.* In which the flowers grow around the stem in rings one above another, as mother-wort, catnip.

2. *Raceme.* Having the florets on short undivided pedicels, arranged along a general peduncle, as currants.

3. *Panicle.* Having some of the pedicels, along the general peduncle of the raceme, divided, as in oats. A panicle contracted into a compact somewhat ovate form, as in lilac, is called *thyrse.*

4. *Spike.* Having the florets sessile, or nearly so, on the elongated general receptacle, as wheat, mullein, &c.

5. *Umbel.* Having the flower-stems diverging from one place, like the braces of an umbrella, bearing florets on their extremities, as carrot, dill, fennel, &c.

6. *Cyme.* It agrees with the umbel in having its general-flower-stems spring from one centre, but differs in having those stems irregularly subdivided, as elder, &c.

7. *Corymb.* In the corymb the peduncles take their rise from different heights along the main stem; but the lower ones being longer, they form nearly a level or convex top, as yarrow.

8. *Fascicle.* In general external appearance it resembles the umbel, but the foot-stalks are irregular in their origin and subdivision, as sweet-william.

9. *Head.* In this the flowers are heaped together in a globular form without peduncles, or with very short ones, as clover.

Concentric Cylinders of Roots and Herbage.

The substance of Roots and Herbage consists of:

1. *Cuticle.* The thin outside coat of the bark, which seems to be without life, and often transparent. Very conspicuous on some kinds of birch, cherry, currant-bushes, &c.

2. *Cellular Integument.* The parenchymous substance between the cuticle and bark, generally green. Plainly seen in the elder, after removing the cuticle.

3. *Bark.* The inner strong fibrous part of the covering of vegetables.

4. *Camb.* The mucilaginous or gelatinous substance, which, in the spring of the year, abounds between the bark and the wood of trees.
5. *Wood.* The most solid part of the trunks and roots of herbs and trees.
6. *Pith.* The spongy substance in the centre of the stems and roots of most plants. Large in the elder.
7. *Medullary sheath.* A cylinder surrounding the pith; made up of spiral vessels and ducts.

Roots.

Roots are the descending parts of vegetables, and are *annual*, *biennial*, or *perennial*. They are of seven kinds.

1. *Branching.* Having the whole root divided into parts as it proceeds downwards, as the oak, apple-tree, &c.
2. *Fibrous.* The whole root consisting of filiform parts, originating immediately from the base of the stem, as many of the grasses.
3. *Creeping.* Extending itself horizontally, and sending out fibrous radicles, as quack-grass.
4. *Spindle.* Thick at the top, and tapering downwards, as carrot, parsnip, &c.
5. *Tuberous.* Roots which are thick and fleshy, but not of any regular globular form. They are *knobbed*, as the potatoe; *oval*, as those of orchis; *abrupt*, as the birdsfoot violet; or *fascicled*, as asparagus.
6. *Bulbous.* Fleshy and spherical. They are either *solid*, as the turnip; *coated*, as the onion; or *scaly*, as the garden lily.
8. *Granulated.* Consisting of several little knobs in the form of grains, strung together along the sides of a filiform radicle, as the wood-sorrel.

Herbage is all the plant except the *root* and *fructification*. It includes *stems*, *leaves* and *appendages*.

Stems.

1. *Tige*, or *proper stem.* The ascending herbage-bearing trunk or stem of all phenogamous plants except the grasses, as the trunk of the oak, the grape vine, the mullein stalk.
2. *Culm.* The stalk or stem of the grasses, as wheat-straw, sugar-cane, &c.
3. *Scape.* That kind of flower-bearing stem which springs immediately from the root, and is destitute of leaves, as dandelion.
4. *Peduncle.* The flower-bearing stem which springs from any part of the stem or branches, as apple, cucumber, &c.
5. *Petiole.* The foot-stalk of the leaf.
6. *Frond.* Applied entirely to cryptogamous plants. It includes the herbaceous, leathery, crustaceous, or gelatinous substance, from which the fruit is produced, called the *thallus* or *hymenium*, when it bears fruit as the receptacle.
7. *Stipe.* The stem of a fern, of a fungus, of compounnd egret, and of a pericarp, when elevated from the receptacle; as of maiden-hair, garden caper.

DIRECTIONS.

The names of a few hundred species of indigenous plants, from woods and fields, *must be learned*, before we can study the physiology or the affinities of Vegetable Nature. We must become acquainted with some individuals before we can study their characters in the abstract.

The experience of a century has demonstrated, that an Artificial System for learning the names of plants, and a Natural one for learning whatever further we desire to know of them, are the only true auxiliaries for facilitating our progress in this department of knowledge.

ANALYSIS, FOR FINDING THE NAME OF A PLANT.

The art of searching out the name of a plant is denominated the analysis of the plant. It is, in truth, an elegant illustration of the *Analytic method* of logic; as the construction of a genus, order and class, is of the *Synthetical method.*

When we analize a plant by the aid of the artificial system, our final purpose is to ascertain the specific name, by which it is called by the first botanist, who *published* a description of it. But in doing this, we trace it through several intermediate steps. Species are grouped together under generic names; genera under orders; orders under classes. By this arrangement much labor is saved. For example, we see the common wild strawberry, for the first time; and are desirous to learn its name. By comparing the proper organs with the description of the classes, we find it belongs with the group of plants, which constitute a class, called *Icosandria.* This class is subdivided into orders, and we find our plant is to be referred to the order *Polygynia.* Here we find the names of several genera: such as the rose, the raspberry, the strawberry, the five-finger, the avens, &c. On comparing our plant with all the genera under this order, we find it will agree with none but the strawberry.

On turning to the strawberry (under the botanical name *fragaria,* at p. 305,) we find there are several kinds of strawberry. Each kind is called a *species,* as the English strawberry. hautboy strawber;y, pine-apple strawberry, wild strawberry, &c. are different species. On carefully comparing our plant with the descriptions of all the species, we find it will agree with none but the wild strawberry (virginiana.) Thus we arrive at the generic name *strawberry,* (fragaria,) and the specific name *wild,* (virginiana.)

At the right hand of the generic name, also at the end of the generic description, at page 79, we find 35, the number of the natural order of Linneus, and 92, the natural order of Jussieu. Under the latter order, on turning to it, we find Fragaria with all its natural associates of our district, and their general properties and affinities.

The Botanical Grammar and Dictionary at the end of this book will be found sufficient for guiding the student in his studies. But experi-

ence has proved the great utility of having a synoptical view of the classes and orders at the beginning; unencumbered with the more extended descriptions of the grammar.

LINNEAN ARTIFICIAL CLASSES.

The Linnean Artificial classes are founded upon the four following circumstances of the stamens; *number*, *position*, *relative length*, and *connexion*. The first *ten*, are distinguished by the number of stamens; the *eleventh* and *twelfth* by number and position: the *thirteenth* and *fourteenth* by number and relative length; the *fifteenth*, *sixteenth* and *seventeenth* by connexion; the *eighteenth*, *nineteenth* and *twentieth* by position. The *last* or *twenty-first* class, being a natural one, is not distinguished by any circumstance of the stamens.

The first twelve classes are named by prefixing Greek numerals, expressive of the number of stamens, to ANDRIA; which is a Greek derivative, used metaphorically for stamens.

The thirteenth and fourteenth classes are named by prefixing the Greek numerals, expressive of the number of long stamens, to DYNAMIA; which is a Greek derivative, signifying power,—importing that the longest stames are most powerful.

The fifteenth and sixteenth classes are named by prefixing Greek numerals, expressive of the number of parcels in which the stamens are united by their filaments, to the word ADELPHIA; which is a Greek derivative, used to signify brotherhood.

The seventeenth class is named by prefixing SYN, (a Greek derivative from *sun*,) signifying together, to GENESIS, a Greek derivative, signifying produced or growing up. The name is intended to signify that the anthers grow up together, or in an united state.

The eighteenth class is named by prefixing an abbreviation of GYNIA, a Greek derivative, used metaphorically to signify the pistil, to ANDRIA; as the stamen and pistil are united in this class.

The nineteenth and twentieth classes are named by prefixing Greek numerals expressive of the number of plants occupied by the stamens and pistils in order to complete a species, to ŒCIA, a Greek derivative from oikos, a house. The name is intended to signify, that the stamens and pistils inhabit the same or different tenements.

The twenty-first class is named by prefixing CRYPTO, a Greek derivative, signifying concealed, to GAMIA, a Greek derivative, used metaphorically for the strewing of pollen from the anthers upon the stigmas of pistils. It is intended to signify, that the operation of strewing the fertilizing pollen upon stigmas, so manifest in lilies, poplars, Indian corn, &c. is concealed in plants of this class; though it is possible that such operations are as regularly performed in cryptogamous as in phenogamous plants.

ARTIFICIAL ORDERS.

Each class is subdivided into two or more orders. These subdivisions are founded upon the number of styles (or stigmas when styles are wanting); the covering or nakedness of seeds; the relative lengths of pods; the comparison between disk and ray florets of compound flowers; and the characters of preceding classes. The orders of the class cryptogamia are distinguished by natural family characters.

The orders of the first twelve classes are distinguished by the number of styles: and named by prefixing Greek numerals, expressive of the

number of styles, to GYNIA, a Greek derivative, used metaphorically for style or stigma. The styles are numbered at their origin on the germ. Their subdivisions above the germ are not taken into view in determining the number of the order. Sometimes the style is wanting, leaving the stigma to sit down upon the germ; in such cases the stigmas are numbered in determining the number of the order.

The orders of the thirteenth and fourteenth classes are but two in each. Those in the thirteenth are named by prefixing GYMNO, a Greek derivative, signifying naked, or ANGIO, a Greek derivative, signifying bag or sack, to SPERMIA, a derivative signifying seed. In the fourteenth, they are named by using a derivative from the Latin SILIQUA, a pod, and from the diminutive of the same, SILICULA.

The orders of the fifteenth, sixteenth, eighteenth, nineteenth and twentieth classes, are distinguished by the characters of preceding classes, and assume the same names. Therefore when a plant is found in either of these five classes, we inquire which nearest preceding class it would fall into, if its particular classic character were wanting. The answer to this inquiry gives the order.

The four first orders of class 17, are distinguished by comparing the disk and ray florets. The first, second and third orders have perfect florets in the disk: the fourth has staminate florets only in the disk. The first has perfect florets in the ray, the second and fourth have pistillate, and the third has neutral. The fifth order has partial perianth calyxes to all the florets: whereas none of the other orders have any but the general calyx—the egret, when present, being a substitute for the perianth. The orders of this class are named by joining the word POLYGAMIA to an appropriate adjective. Polygamia is a Greek derivative, used metaphorically to signify numerous organs for carrying on the process of strewing the fertiliziug pollen upon stigmas. The adjective ÆQUALIS is used to signify, that the organs for furnishing pollen are equalized, or duly proportioned to the stigmas to be fertilized; SUPERFLUA, that the pistillate florets in the margin or ray are superfluous, each fertile floret of the disk having stamens and pistils in due proportion; FRUSTRANEA, that the ray florets are empty or vain, having no stamens or pistils; NECESSARIA, that the ray florets are necessary to the production of seed, the disk florets being all staminate; SEGREGATA, that the florets are disjointed, or separated from each other by partial calyxes.

The orders of the twenty-first class are distinguished by natural family characters; this class embraces six natural families. The species of the five last of the families are placed at the end of the phenogamia, at page 601.

N. B. When a star (*) is placed before generic names at the end of an order, it is to be understood, that though some species of these genera fall here by the rules of the artificial system, yet that as no natural genus must be divided, these stragglers must be referred back to their natural genera for descriptions. They may thus be referred back by aid of the alphabetical arrangement of generic names, where the species are described.

SYNOPSIS OF THE ARTIFICIAL CLASSES.

Number of Stamens.

1. MONANDRIA, 1 stamen to each flower.
2. DIANDRIA, 2 stamens.
3. TRIANDRIA, 3 stamens.
4. TETRANDRIA, 4 stamens.
5. PENTANDRIA, 5 stamens.
6. HEXANDRIA, 6 stamens.
7. HEPTANDRIA, 7 stamens.
8. OCTANDRIA, 8 stamens.
9. ENNEANDRIA, 9 stamens.
10. DECANDRIA, 10 stamens.

Number and Position.

11. ICOSANDRIA, over 10 stamens, on the calyx. Generally about 20.
12. POLYANDRIA, over 10 stamens, not on calyx. Generally over 20, and variable.

Number and relative Length.

13. DIDYNAMIA, 4 stamens, 2 of them longest. Flowers labiate.
14. TETRADYNAMIA, 6 stamens, 4 of them longest. Flowers cruciform.

Connexion of the Stamens by filaments or anthers.

15. MONADELPHIA, filaments united in 1 set. The stamens present a columnar form, altogether.
16. DIADELPHIA, filaments united in 2 sets; papilionaceous. Stamens may be in one set, if the flower is papilionaceous.
17. SYNGINESIA, anthers united; flowers compound. The filaments are always 5, and separate.

Position of Stamens relative to the Pistils.

18. GYNANDRIA, stamens on the pistil, distant from the coral. Pollen mostly glutinous; and most of the flowers contain nectaries.
19. MONOECIA, stamens in flowers separate from pistils, on the same plant. Pollen generally abundant.
20. DIOECIA, stamens in flowers separate from pistils, on separate plants. Pollen abundant. Pistillate plant generally most robust.

Invisible or Caducous.

21. CRYPTOGAMIA, stamens invisible, wanting or very caducous, This class includes six natural orders.

OMITTED CLASSES.

The classes of Linneus, called Dodecandria, Polyadelphia, and Polygamia, are omitted: and their respective genera are distributed among other classes. For the Dodecandria is a small class and the character variable. The Polyadelphia is exceedingly variable, and not necessary. The Polygamia is inconstant in its character, and the plants may be classed by their perfect flowers.

ORDERS OF EACH CLASS.

	1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	10th.	12th.	16th.
1	Mon.	Dig.	—	—	—	—	—	—	—	—	—
2	Mon.	Dig.	Tri.	—	—	—	—	—	—	—	—
3	Mon.	Dig.	Tri.	—	—	—	—	—	—	—	—
4	Mon.	Dig.	—	Tet.	—	—	—	—	—	—	—
5	Mon.	Dig.	Tri.	Tet.	Pen.	—	—	—	—	Pol.	—
6	Mon.	Dig.	Tri.	—	—	Hex.	—	—	—	Pol.	—
7	Mon.	—	—	Tet.	—	Hex.	Hep.	—	—	—	—
8	Mon.	Dig.	Tri.	Tet.	—	—	—	—	—	—	—
9	Mon.	Dig.	Tri.	—	—	—	—	—	—	—	—
10	Mon.	Dig.	Tri.	Tet.	Pen.	—	—	—	Dec.	—	—
11	Mon.	Dig.	—	—	Pen.	—	—	—	—	Pol.	—
12	Mon.	Dig.	—	—	Pen.	—	—	—	—	Pol.	—
13	Gym.	Ang.	—	—	—	—	—	—	—	—	—
14	Silic.	Siliq.	—	—	—	—	—	—	—	—	—
15	—	—	Tri.	—	Pen.	—	Hep.	—	Dec.	Pol.	—
16	—	—	—	—	—	Hex.	—	Oct.	Dec.	—	—
17	Æq.	Sup.	Frus.	Nec.	Seg.	—	—	—	—	—	—
18	Mon.	Dia.	—	—	Pen.	Hex.	—	—	Dec.	—	—
19	Mon.	Dia.	Tri.	Tet.	Pen.	Hex.	—	—	—	Pol.	Mon.
20	—	Dia.	Tri.	Tet.	Pen.	Hex.	—	Oct.	Dec.	Pol.	Mon.
21	Fil.	Mus.	Hep.	Alg.	Lich.	Fun.	—	—	—	—	—

ABBREVIATIONS EXPLAINED.

Mon. monogynia, 1 style, or sessile stigma, to each flower—Dig. digynia, 2 styles or sessile stigmas, to each flower—Tri. trigynia, 3—Tet. tetragynia, 4—Pen. pentagynia, 5—Hex. hexagynia, 6—Hep. heptagynia, 7—Oct. octagynia, 8—Dec. decagynia, 10—Pol. polyginia, over 10. In classes 15, 16, 18, 19, 20, preceding classes become orders by their names and characters. Here, Mon. monandria; Dia. diandria; Tri. triandria; Tet. tetrandria; Pen. pentandria; Hex. hexandria; Hep. heptandria; Oct. octandria; Dec. decandria; Pol. polyandria; Mon. monadelphia. In class 13, Gym. gymnospermia; Ang. angiospermia. In class 14, Silic. siliculosa; Siliq. siliquosa. In class 17, Æq. polygamia æqualis; Sup. polygamia superflua; Frus. polygamaia frustranea; Nec. polygamia necessaria; Seg. polygamia segregata. In class 21, Fil. Filices, (ferns)—Mus. Musci, (mosses)—Hep. Hepticae, (liverworts)—Alg. Algae, (seaweeds)—Lich. Lichenes—Fun. Fungi, (mushroom, mould.)

NATURAL ORDERS OF LINNEUS.

Plants of the same Natural Order agree in habit, and mostly in medicinal properties. When they differ in these properties, the difference is indicated by the odour.

The natural Orders of Linneus are retained on account of the books in use which refer to them. Jussieu has improved upon Linneus greatly. Medical students ought to arrange their plants according to Jussieu in the herbarium.

Students should be told, that many plants may possess the qualities of the orders to which they belong, though in a very feeble and scarcely perceptible degree.

1. PALMÆ. Palm-like. *Farinaceous diet.*
2. PIPERITÆ. Pepper-like. *Tonics* and *stomachics.*
3. CALAMARIÆ. Reed-like. *Coarse cattle fodder.*
4. GRAMINA. The grasses. *Farinaceous diet* and *cattle fodder.*
5. TRIPETALOIEÆ. Rush-grasses. *Tonics* and *rough cattle fodder.*
6. ENSATÆ. Sword-leaved. *Antiscorbutics* and *tonics.*
7. ORCHIDEÆ. Ladies' slipper. *Farinaceous diet* and *stomachics.*
8. SCITAMINEÆ. Ginger-like. *Warming stomachics.*
9. SPATHACEÆ. With spathes. *Secernent stimulants.*
10. CORONARIÆ. Liliaceous. *Antiscorbutic, cathartic* and *emolient.*
11. SARMENTACEÆ. Asparagus-like. *Tonics* and *secernent stimulants.*
12. OLERACEÆ. Pot-herbs. If nauseous, *cathartic;* others, *mild stimulants* and *nutrientics.*
13. SUCCULENTÆ. Thick-leaved. *Antiscorbutic* and *emolient.*
14. GRUINALES. Crane-bills. *Tonics* and *refrigerants.*
15. INUNDATÆ. Under water and without beauty. *Astringents.*
16. CALYCIFLORÆ. Without corols. *Astringents* and *refrigerants.*
17. CALYCANTHEMÆ. Calyx on the germ. *Tonics.*
18. BICORNES. Anthers with two horns. *Astringents.*
19. HESPERIDES. Sweet-scented. *Astringent* and *stomachic.*
20. ROTACEÆ. Corols wheel-form. *Tonics.*
21. PRECIÆ. Primrose-like. Elegant. *Astringents.*
22. CARYOPHYLLEÆ. Pink-like. *Astringents* and *secernent stimulants.*
23. TRIHILATÆ. Three-seeded. *Tonics* and *nutrientics.*
24. CORIDALES. Fumitory-like. *Narcotic* and *antiscorbutic.*
25. PUTAMINEÆ. Shell-fruit. *Detergent* and *antiscorbutic.*
26. MULTISILIQUÆ. *Cathartic, narcotic* and *caustic.*
27. RHŒADEÆ. Poppy-like. *Anodyne* and *antiscorbutic.*
28. LURIDÆ. Corols lurid. *Narcotic* and *antiscorbutic.*
29. CAMPANACEÆ. Bell-form. *Cathartic* and *secernent stimulants.*
30. CONTORTEÆ. Corols twisted. *Cathartics* and *antiscorbutics.*
31. VEPRECULÆ. Calyxes like corols. *Antiscorbutic* and *emetic.*
32. PAPILIONACEÆ. *Emolient, diuretic, nutrientic.*
33. LOMENTACEÆ. *Emolient, astringent, cathartic.*
34. CUCURBITACEÆ Pumpkin-like. *Cathartic* and *refrigerant.*
35. SENTICOSÆ. Brambles. *Astringent* and *refrigerant.*
36. POMACEÆ. Apple-like. Fruit fleshy. *Refrigerants.*
37. COLUMNIFERÆ. Stamens united. Mallows-like. *Emolient.*
38. TRICOCCÆ. Three-celled. *Cathartic.*
39. SILIQUOSÆ. Mustard-like. *Diuretic, antiscorbutic, nutrientic.*

40. Personatæ. *Deobstruents* and *carthatics.*
41. Asperifoliæ. Rough-leaved. *Astringents* and *deobstruents.*
42. Verticillata. Flowers whorled. *Stomachics* and *astringents.*
43. Dumosæ. Bushy. *Tonic* and *carthartic.*
44. Sepiariæ. Ornamental shrubs. *Astringents.*
45. Umbellatæ. *Stomachic* and *narcotic.*
46. Hederaceæ. Grape-like. *Tonics* and *refrigerants.*
47. Stellatæ. Whorled. *Tonics* and *deobstruents.*
48. Aggregatæ. *Tonics* and *secernent stimulants.*
49. Compositæ. Sun-flower-like. *Tonics* and *secernent stimulants.*
50. Amentaceæ. *Astringents.*
51. Coniferæ. Pine-like. *Tonics* and *stomachics.*
52. Coadunatæ. *Tonics.*
53. Scabridæ. Rough. *Astringents.*
54. Miscellaneæ. Qualities are *various.*
55. Felices. Ferns. *Secernent stimulants.*
56. Musci. Mosses. *Cathartics* and *secernant stimulants.*
57. Algæ. Liverworts, lichens, and sea-weeds. *Tonics.*
58. Fungi. Mushroom, Mould. *Tonics and cathartics.*

JUSSIEU'S NATURAL TAXONOMY,

IMPROVED BY BROWN, HOOKER, LINDLEY, AND OTHERS.

These orders bring plants together in groups or assemblages, in which the individuals present resemblances in their internal structures, external appearances, sensible qualities, and medicinal properties.

Three Grand Divisions are founded on the substance of the seed.

1. *Acotyledonous*, which have no thick massive seed: as those of gills or laminae under the cap of a mushroom, and the smoke-like dust of a puff-ball. In truth it is doubtful whether they have seed.

2. *Monocotyledonous*, which have the seed in a single mass; as the indivisible kernel of Indian corn, wheat, wild turnip, lily, onion, ladies' slipper, &c.

3. *Dicotyledonous*, which have the seed in two massive partitions, (called cotyledons) as the pea, bean, plantain, beet, carrot, mullein, sage, dodder, milkweed, wintergreen, lobelia, dandelion.

1. Acotyledonous Plants.

Acotyledonous Plants, are distributed into, the *Fungi;* as toadstools and puff-balls. *Algae;* as frog-spittle, green sea-weed, &c. *Lichenes*, lichens; as spots on rails, old walls, trees, &c.; also fibrous appendages to trees and dead limbs. *Hepaticae;* as liverwort, succulent moss-like plants on trees, &c. *Musci;* mosses, as the hair-cap, swamp-moss, &c. *Naiades*, water nymphs; as the chara. For the Genera of these 5 last orders see pages from 121 to 138. But for the Order *Filices*, see pages 118, 119, and 120.

All the genera of Cotyledonous plants are here arranged under their respective orders, sub-orders, and sections. They are referred to by the numbers of the orders, set at the right of their names.

See descriptions of these orders &c. in the Grammar of Botany at the end of this Manual.

FIRST GRAND DIVISION.

ACOTYLEDONOUS PLANTS.

No stamens.

I. Fungi (toadstool, puff-ball, &c.) Genera 110—described at pages 131 to 138. *Tonic if dry; narcotic if juicy.* As all fungi are of the same Natural Order, they are arranged according to properties and affinities in the artificial system.

II. Algae (sea-weed and frog-spittle) Genera 40—described at pages 125 to 127. *Tonic; some deobstruent.*

II. L. Lichenes. Genera 35—described at pages 128 to 131. *Feebly tonic generally—some very active tonics—some used in dyeing.*

III. Hepaticae. (liverwort plants, &c.) Genera 8—described at pages 124 and 125. *Tonic, and often refrigerant.*

IV. Musci. (mosses) Genera 43—described at pages 121 to 124. *Tonic, rarely cathartic.*

V. Filices. (polypods, breaks, &c.) Genera 28—described at pages 118 to 120. *Secernant stimulants.*

VI. Naiades. Genus 1 (Chara)—described at page 108. *Nauseous and cathartic.*

SECOND GRAND DIVISION.

MONOCOTYLEDONOUS PLANTS. CLASS FIRST.

Stamens below the pistil. Flowers sub-petaloid.

VII. AROIDEAE.
A. Aroideae.
Prop. Acrid.
Acorus, L.
Orontium, L.
Calla, L.
Arum, L.
Calladium, Vent.
Rensselaeria, Beck.
Ictodes, Bw.
B. Juncagineae.
Tonic and Cathartic.
Triglochin, L.
Scheuchzeria, L.
C. Fluviales.
Feeble tonics.
Podostemum, Mx.
Najas, L.
Potamogeton, L.
Zostera, L.
Ruppia, L.
Caulinia, Willd.
Zanichellia, L.
D. Pistiaceae.
Stimulant, acrid.
Pistia, L.
Lemna, L.

VIII. TYPHAE.
A. Typhaceae
Prop. Typha, L.
Sparganium, L.

IX. CYPEROIDEAE.
A. Cyperaceae.
Farinaceous, nutritious, sugary.
1. *True Cyperaceae.*
Cyperus, L.
Kyllinga, Mx.
Dulichium, Pers.
Mariscus. Vahl.
2. *Scirpeae.*
Mapania. L.
Fimbristylis, Vahl.
Eriophorum, L.
Dichromena, Michx.
Fuirena, Lin fil.
Schoenus, L.
Rhynchospora, Vahl.
Vaginaria, Rich.
3. *Sclerae.*
Scleria, L.
4. *Cariciniae.*
Carex, L.

X. GRAMINEAE.
A. Gramineae.
Cattle-fodder, farinaceous food, tonic.

1. *Agrostideæ* (Field-grass-like.)
Agrostis, L.
Cinna, L.
Phleum, L.
Polypogon, Desf.
Muhlenbergia, Shereb.
Phalaris, L.
Trichochloa, Desf.
Alopecurus, L.
Crypsis, Lamk.
2. *Paniceæ.* (Panic-grass-like.)
Milium, L.
Digitaria, Hall.
Paspalum, L.
Orthopogon, R. Br.
Tripsacum, L.
Piptatherum, P. de Beauv.
Pennisetum, Nutt.
Aulaxanthus, Ell.
Beckmannia, Jacq.
Panicum, L.
Ceresia, Pers.
Manisuris, L.
Cenchrus, L.
3. *Avenaceæ.* (Oats-like.)
Stipa, L.
Eriocoma, Nutt.
Aira, L.
Trisetum, Pers.
Uralepsis, Nutt.
Danthonia, Dc.
Aristida, L.
Anthoxanthum, L.
Miegia, Pers.
Holcus, L.
Arundo, L.
Calamagrostis, Roth.
Pleuraphis, Tor.
Avena, L.
Hierochloa, Gmel.
Psamma, P. d. B.
4. *Festucaceæ* (Fescgrass-like).
Festuca, L.
Diarrhena, Mx.
Poa, L.
Sesleria, Scop.
Briza, L.
Ceratochloa, P. de. B.
Kaeleria, Pers.
Windsoria, Nutt.
Phragmites, Trin.
Melica, L.
Dactylis, L.
Bromus, L.
Glyceria, R. Brown.
Uniola, L.
5. *Chlorideæ.* (Hair-beard-like.)
Chloris, Swtz.
Atheropogon, Muhl.
Monocera, Ell.
Oxydena, Nutt.
Cynodon, Rich.
Eleusine, Gaert.
6. *Hordeaceæ.* (Barley-like.)
Hordeum, L.
Triticum, L.
Ægilops, L.
Limnetis, Richard.
Secale, L.
Lolium, L.
Rottbollia, L.
Elymus, L.
Lepturus, R. Brown.
Nardus, L.
7. *Saccharineæ.* (Cane-like.)
Saccharum, L.
Erianthus, Michx.
Andropogon, L.
Sorghum, Pers.
Gymnopogon, L. de B.
8. *Oryzeæ.* (Rice-like.)
Leersia, L.
Zizania, L.
Oryzopsis, Michx.
Oryza, Willd.
Hydrochloa, P. de B. non Hort. Brit.
Zea, L.
9. *Bambusaceæ.* (Reed-like.)
Arundinaria, Michx.

CLASS SECOND.
Stamens surrounding the pistil, above its base.
Flowers petaloid.

XI. PALMÆ.
A. PALMÆ.
Food, oil, wine and tonic remedies.
Chamaerops, L.
Sabal, Ad.

XII. ASPARAGI.
A. SMILACEÆ.
Diuretic and demulcent.
Smilax, L.
Streptopus, Michx.
Uvularia, L.
Asparagus, L.
Gyroma, Nutt.
Convallaria, L.
Trillium, L.
B. DIOSCOREÆ.
Nutricious, tonic.
Dioscorea, L.

XIII. JUNCI.
A. ALISMACEÆ.
Stimulating and acrid.
Sagittaria, L.
Alisma, L.
B. COMMELINEÆ.
Feeble tonics.
Commelina, L.
Tradescantia, L.
C. XYRIDEÆ.
Antiscorbutic.
Xyris, L.
Tripterella, Mx.
Apteria, N.
D. JUNCEÆ.
Weak tonics.
Juncus, L.
Narthecium, Mohr.
Pleea, Michx.
Luzula, Dc.
E. MELANTHACEÆ.
Poisonous, Antiscorbutic.
Melanthium, L.
Helonias L.
Zigadenus, Mx.
Tofielda, Huds.
Nolina, Mx.
Xerophyllum, Mx.
Veratrum, L.

XIV. LILIACEAE.
A. Liliaceae.
Diuretics, emollients.
Tulipa, Willd.
Yucca, L.
Polyanthes.
Lilium, L.
Calochortus, Pursh.
Frittillaria, L.
Erythronium, L.

XV. BROMELIA.
A. Bromeliaceae.
Refrigerants, Cathartics.
Tillandsia, L.
Agave, L.

XVI. ASPHODELI.
(hyacinth-like.)
A. Asphodeleae.
Bitter stimulants, some are expectorants and absorbents.
Scilli, L.
Allium, L.
Hyacinthus, L.
Ornithogalum, L.
Aletris, L.
Brodiaea, Sm.
Phalangium.
Asphodelus, L.

XVII. NARCISSI.
A. Hypoxideae.
Feeble tonics.
Hypoxis, L.
B. Amaryllideae.
Stimulants, and some poisonous.
Amaryllis, L.
Galanthus, Willd.
Pancratium, L.
Crinum, L.
C. Pontederieae.
Weak tonics.
Pontederia, L.
Syena, Willd.
Heteranthera, Beav.
Schollera, Schrb.

XVIII. IRIDES.
A. Haemodoraceae.
Tonic.
Dilatris, Ker.
Conostylis, R. Brown.
B. Irideae.
Slightly stimulating, some are poisonous.
Iris, L.
Crocus, Ker.
Sysirinchium, L.
Ixia, L.

CLASS THIRD.
Stamens on the pistil or style.
Flowers petaloid.

XIX. MUSAE.
A. Musaceae.
Tonic.
Musa, Willd.

XX. CANNAE.
A. Marantaceae.
Nutricious, tonic, demulcent.
Thalia, L.
Canna, L.

XXI. ORCHIDEAE.
A. Orchideae.
Nutritious, emollient.
1. *Neottieae.*
Goodyera, R. Br.
Neottia, Sw.
Listera, R. Br.
2. *Arethuseae.*
Pogonia, R. Br.
Aplectrum, Nutt.
Triphora, Nutt.
Calopogon, R. Br.
Epipactis, Rich.
Listeria, R. Br.
Corallorhiza, R. Br.
Arethusa, L.
3. *Ophrydeae.*
Orchis, L.
Habenaria, R. Br.
Tipularia, Nutt.
4. *Epidendreae.*
Epidendrum, L.
Bletia, R. & P.
5. *Malaxideae.*
Malaxis, Swartz.
Microstylis, Nutt.
Calypso, Salisb.
6. *Cypripedeae.*
Cypripedium, L.

XXII. HYDROCHARIDES.
A. Hydrocharides.
Weak tonics, somewhat nutritious.
Hydrocharis, L.
Valeneria, L.
Serpicula, Muhl.

THIRD GRAND DIVISION.

DICOTELODONOUS PLANTS. *Section first. Flowers apetalous.*

CLASS FOURTH.
Stamens on the pistil.
XXIII. ARISTOLOCHIAE.
A. Aristolochiae.
Tonic and stimulating.
Aristolochia, L.
Asarum, L.

CLASS FIFTH.
Stamens around the germ above the base.
XXIV. ELÆAGNI.
A. Elaeagneae.
Tonic.
Eleagnus, L.
Hippophae.

XXV. THYMELEAE.
A. Santalaceae.
Refrigerent, sedative.

Nyssa, L.
Hamiltonia, Muhl.
Thesium.

B. THYMELEAE.
Caustic, cathartic.
Dirca, L.
Daphne.

XXVI. PROTEAE.
A. PROTEAE.
Weak tonics.

XXVII. LAURI.
A. LAURINEAE.
Aromatic, stomachic, warming.
Laurus, L.

XXVIII. POLYGONEAE.
A. POLYGONEAE.
Cathartic, cooling.
Brunichia. Gaert.
Calligonum.
Pollygonum, L.
Rheum.
Rumex, L.
Oxyria, Hill.
Eriogonum, Michx.
B. BEGONIACEAE.
Bitter astringent.

XIX. ATRIPLICES.
A. CHENOPODEAE.
Nutritious, tonic.
Chenopodium, L.
Salicornia, L.
Blitum, L.
Kochia, Schr.
Atriplex, L.
Corispermum, L.
Beta.
Diotis, L.
Acnida, L.
Salsola, L.
Spinacea.
Polycnemum, L.
B. PHYTOLACCEAE.
Deobstruent, emetic.
Phytolacca, L.
Rivinia, L.

CLASS SIXTH.
Stamens below the germ.

XXX. AMARANTI.
A. ILLECEBREAE.
Astringent.
Queria.
Stipulicida.
Polycarpon, L.
B. AMARANTACEAE.
Diuretic, nutritious.
Amaranthus, L.
Achyranthes, L.
Oplotheca, Nutt.
Gomphrena.
Iresine, L.
C. SCLERANTHEAE.
Feeble tonic.
Scleranthus, L.

XXXI. PLANTAGINEAE.
A. PLANTAGINEAE.
Emollient, astringent.
Plantago, L.

XXXII. NYCTAGINES. A. NYCTAGINEAE.
Cathartic.
Boerhaavia, L.
Allionia, L.
Calymenia.
Mirabilis. Conradia, N.

XXXIII. PLUMBAGINES.
A. PLUMBAGINEAE.
Cathartic, tonic.
Statice, L.

CLASS SEVENTH.
Corols below the germ.

XXXIV. JASMINEAE.
A. JASMINEAE.
Fragrant stomachics, tonics.
Jasminum.
B. OLEACEAE.
Nutritious, tonic, febrifuge.
Olea, L.
Syringa, L.
Ligustrum, L.
Fraxinus, L.
Chionanthus, L.
Ornus, Pers.

XXXV. LYSIMACHIAE.
A. PRIMULACEAE.
Some acrid, mostly feebly tonic.
Primula, L.
Trientalis, L.
Lysimachia, L.
Centunculus, L.
Androsace, L.
Hottonia, L.
Anagallis, L.
Samolus, L.
Dodecatheon, L.
Glaux, L.
Micranthemum, Michx.
B. LENTIBULARIAE.
Scarcely tonic.
Pinguicula, L.
Utricularia, L.

XXXVI. PEDICULARES.
A. OROBANCHEAE.
Astringent.
Orobanche, L.
Epiphegus, Nutt.
B. RHINANTHACEAE.
Aromatic, tonic.
Rhinanthus, L.
Bartsia, L.
Melampyrum, L.
Pedicularis, L.
Castilleja, Mutis.
Orthocarpus, Nutt.
Euchroma, Nutt.

XXXVII. SCROPHULARIAE.
A. SCROPHULARINEAE.
Acrid, poisonous, antiscorbutic.
1. *Veroniceae.*
Veronica, L.
Leptandra, Nutt.
2. *Erinaceae.*
Buchnera, L.
3. *Scrophularinae.*
Scrophularia, L.
Mimulus, L.

Schwalbea, L.
Herpestris, Gaert.
Limosella, L.
Seymeria, Pursh.
Antirrhinum, L.
Gratiola, L.
Chelone, L.
Hemianthus, Nutt.
Capraria, L.
Digitalis, L.
Lindernia, L.
Pentstemon, Willd.
Collinsia. Nutt.
Gerardia, L.

XXXVIII. SOLANEAE.
A. SOLANEAE.
Poisonous fruit, not herbage or root.
1. *Solanae,* (Potatoe-like.)
Solanum, L.
Hyoscyamus.
Androcera.
Physalis, L.
Datura, L.
Capsicum, L.
Nicotiana, L.
Lycium, L.
2. *Verbasceae.* (Mullein-like.)
Verbascum, L.
Atropa.

XXXIX. ACANTHI.
A. ACANTHACEA.
Emollient, aromatic, tonic.
Justicia, L.
Ruellia, L.
Elytraria, Michx.

XL. BIGNONIAE.
A. PEDALINEAE.
Emollient.
Sesamum.
Martynia, L.
B. BIGNONIACEA.
Nutritious and tonic.
Bignonia, L.
Catalpa, Juss.
C. MYOPORINEAE.
Astringent.
Avicennia, L.

XLI. VITICES.
A. VERBENACEAE.
Diuretic and moderately tonic.
Verbena, L.
Lantana, L.
Callicarpa, L.
Zapania, Link.

XLII. LABIATEAE.
A. LABIATEAE.
Stomachic, tonic.
Boltonia.
Lavandula,
Rosmarinus.
1. *Menthoideae.* (Mint-like.)
Lycopus, L.
Isanthus, Michx.
Mentha, L.
2. *Satureineae.* (Savory-like.)
Satureja.
Thymus, L.
Hyssopus.
Rosmarinus.
Phryma.
Pycnanthemum, Michx.
Origanum, L.
3. *Ajugoideae.* (Horse-balm-like.)
Ajuga.
Molucella.
Teucrium, L.
Collinsonia, L.
Trichostema, L.
Ceranthera, Elliot.
4. *Monardeae.*
Monarda, L.
Cunila, L.
Synandra, Nutt.
5. *Nepeteae.* (Catmint-like.)
Leucas, R. Brown.
Lamium, L.
Nepeta, L.
Macbridea, Elliot.
Galeopsis, L.
Dracocephalum, L. Benth.
Glechoma, L.
Melissa, L.
Leonurus, L.
Stachys, L.
Marrubium, L.
Hedeoma, Pers.
Calamintha, Ph.
Scutellaria, L.
Clinopodium, L.
Salvia, L.
Prunella, L.
6. *Ocymoideae.*
Hyptis, Jacq.

XLIII. BORAGINEAE.
A. BORAGINEAE.
Emollient and astringent.
Lithospermum, L.
Symphytum, L.
Myosotis, L.
Pulmonaria, L,
Batschia, Gmel.
Echium, L.
Rochelia.
Onosmodium, Mx.
Lycopsis, L.
Cynoglossum, L.
B. HELIOTROPICEAE.
Astringent.
Heliotropium, L.
C. HYDROPHYLLEAE.
Emollient, feebly tonic.
Hydrophyllum, L.
Phacelia, Mx.
Nemophila, N.
Ellisia. L.

XLIV. CONVOLVULI.
A. CONVOLVULACEAE.
Roots mostly cathartic.
Convolvulus, L.
Evolvulus, L.
Ipomea.
Dichondra, Forst.
Cuscuta, L.
B. HYDROLEACEAE.
Tonic.
Hydrolea, L.
Diapensia, L.

XLV. POLEMONIA.
A. Polemoniaceae.
Scarcely tonic.
Polemonium, L.
Collomia, N.
Phlox, L.
Cantua.

XLVI. GENTIANEAE.
A. Gentianeae.
Very tonic.
Gentiana, L.
Sabbatia, Adans.
Ophiorhiza.
Lisianthus, P. Br.
Obolaria, L.
Swertia, L.
Exacum, L.
Houstonia, L.
Villarsia, Vent.
Frasera, Walt.
Bartonia, Ph.
Polypremum, L.
Menyanthes, L.
B. Spigeliaceae.
Vermifuge, cathartic.
Spigelea, L.

XLVII. APOCYNEAE.
A. Asclepiadeae.
Acrid, stimulating, emetic, sudorific.
Podostigma.
Gonolobus, Mx.
Enslenia, N.
Asclepias, L.
Cynanchum, L.
Vinca.
Periploca. L.
B. Apocyneae.
Very acrid, febrifuge, emetic, sudorific.
Apocynum, L.
Gelseminum, Ju.
Amsonia, Walt.
Echites, L.

XLVIII. SAPOTAE.
A. Sapoteae.
Food, diuretic, tonic.
Bumelia, Swtz.

CLASS EIGHTH.
Corols surrounding the germ, above the base.

XLIX. GUAICANAE.
A. Ebenaceae.
Nutritious, tonic.

L. RHODENDRA &
LI. ERICAE.
A. Ericeae.
Diuretic, astringent.
1. *Ericeae verae.* (Heath-like, or Wintergreen-like.)
Arbutus, L.
Mylocarium, W.
Elliottia, Muhl.
Gaultheria, L.
Clethra, L.
Menziesia, L.
Andromeda, L.
Cyrilla, L.
Pickeringia, N.
2. *Rhodoraceae.* (Honeysuckle-like.)
Kalmia, L.
Rhododendron, L.
Ledum, L.
Epigea, L.
Leiophyllum, Ell.
Bejaria, Mx.
Rhodora, L.
Azalea, L.
B. Vaccineae.
Astringent, tonic, fruit refrigerant.
Vaccinium, L.
Oxycoccus, P.
C. Pyrolaceae.
Tonic, diuretic.
Chimaphila.
Monotropa, L.
Schweinitzia, E.
Pyrola, L.
Hypopithys.
Monotropsis.
Pterospora, N.

LII. CAMPANULACEAE.
A. Campanulaceae.
Mild tonics, those with milky juice are acrid.
Campanula, L.
Specularia, Hiest.
B. Lobeliacea.
Acrid when they contain milk, mostly poisonous.
Lobelia, L.
Clintonia, Doug.

CLASS NINTH.
Corols on the germ, anthers united.
Compositae.
Tonic bitter, secernent stimulants, carminitives.

LIII. CICHORACEÆ.
Secernent, stimulants, anodynes.
Hieracea. (Hawk-weed-like.)
Cichorium.
Crepis, L.
Hieraceum, L.—D. Don.
Prenanthes, L.
Lygodesmia, Don.
Taraxaceae, (Dandelion-like.)
Leontodon, Schreb.
Tragopogon,
Troximon, P
Apargia, Scop.
Lapsania, L.
Lactuceae. (Lettuce-like.)
Lactuca, L.
Sonchus, L.
Borkhausia, Moench.
Scorzonera.

LIV. CINEROCEPHALAE.
Secernent stimulants; if nauseous, cathartic.
A. Carduaceae. (Thistle-like.)
Chaptalia, Vent.
Carduus, L.
Centaurea, L.
Echinops, W.
Calendula, L.

Cnicus, L.
Sausurea, Dc.
Carthamus, W.
Brickellia.
Arctium, L.
Onopordon, L.
Cynara, W.

LV. CORYMBIFERAE.
Tonics and secernent stimulants.
A. INULAE. (Elicampane-like.)
Elephantopus, L.
Liatris, L.
Pyrrocoma, Hk.
Pterocaulon, E.
Arnica, L.
Gnaphalium, L.
Antennaria, R. Brown.
Tagetes.
Veronia, L.
Baccharis, L.
Inula, L.
Brachyris.
Buphthalmum, L.
Espeletia, H. & B.
Gymnostylis,
Conyza, L
Baltimora.
Chrysopsis.
Stokesia, le'Her.
B. ASTEREAE. (Starflower-like.)
Erigeron, L.
Diplopappus Cassin.
Chrysocoma, L.
Aster, L.
Tripolium, Dod. Nees.
Euribia, Cassin.
Galatella, Cassin.
Boltonia, le'Her.
Townsendia, Hk.
Crinitaria, Cassin.
Solidago, L.
Bellis, L.
C. EUPATORINEAE. (Boneset-like.)
Kuhnia, L.
Stevea, Con.
Tussilago, L.
Cineraria, L.
Eupatorium, L.
Polypteris, N.
Senecio, L,
Bœbera, W.
Mikania, W.
Cacalia, *L.*
Donia.
D. HELIANTHEAE. (Sunflower-like.)
Hymenopappus, le' Her.
Marshallia, Ph.
Helenium, L.
Zinnia, L.
Gallardia, Lk.
Coreopsis, Jacq.
Chrysogonum, L.
Leptopoda, N.
Pectis, L.
Starkea.
Trichophyllum, N.
Blepharipappus, Hk.
Eclipta, L.
Siegesbeckia.
Bidens, L.
Silphium, L.
Baldwina, N.
Melananthera, Mx.
Tetragonotheca, le'Her.
Heliopsis.
Helianthus, L.
Wyethia, N.
Rudbeckia, L.
Calliopsis, Reichenb.
Polymnia, L.
Chrysanthemum, L.
Pyrethrum, W.
E. ANTHEMIDEAE. (Mayweed-like.)
Sparganophorus, Mx.
Anthemis, L.
Santolina, L.
Tanacetum, L.
Achillea, L.
Artemisia, L.
Omalanthus, Lessing.
Verbesina.
F. AMBROSIACEA. (Hogweed-like.)
Parthenium, L.
Xanthium, L.
Iva, L.
Ambrosia, L.

CLASS TENTH.
COROLS ON THE GERM, ANTHERS SEPARATE.

LVI. DIPSACEAE.
A. DIPSACEAE.
Weak tonics.
Scabiosa.
Dipsacus, L.
B. VALERIANEAE.
Tonic, aromatic, vermifuge.
Plectritis, Dc.
Valeriana, L.
Patrinea, Juss.
Fedia.
Valerianella, Dc.
Phyllactis, P.

LVII. RUBIACEAE.
A. STELLATAE.
Astringent and a good dye-weed.
Rubia, L.
Galium, L.
B. CINCHONEAE.
(Peruvian bark-like.)
Powerful febrifuge, tonics.
1. *Spermacoceae.*
Spermacoce, Mayer.
Diodia, L.
2. *Cephalantheae.*
(Button-bush-like.)
Cephalanthus, L.
3. *Hedyotideae.*
Hedyotis, L.
Anotus, Dc.
4. *Cinchoneae.*
Pinkneya, Mx.
5. *Psychotriaceae.*
Chiococca, P. Br.
Psychotria, L.
Mitchella, L.

LVIII. CAPRIFOLIA.
A. CAPRIFOLIACEAE.
Astringent, fragrant.
1. *Lonicereae.*
(Honeysuckle-like.)
Xylosteum.
Triosteum, L.
Lonicera, R. & S.
Symphoricarpus, Dill.

Diervilla, Tourn.
Linnaea, Gron.
Symphoria, P.
2. *Sambucinea.*
(Elder-like.)
Viburnum, L.
Sambucus, L.
3. *Hederaeae.*
Hedera.
Cornus, L.
4. *Hydrangeae.*
Hydrangea, L.
Hortensia.
B. LORANTHEAE.
Astringent.
Viscum, L.
Arceuthobium, M. Bieb.

Section third. Flowers polypetalous.

CLASS ELEVENTH.
STAMENS ON THE GERM.

LIX. ARALIAE.
A. ARALIACEA.
Stimulants.
Aralia, L.
Panax, L.

LX. UMBELLIFEREAE.
A. UMBELLIFEREAE.
Stomachic, or narcotic if nauseous.
1. *Orthospermeae.*
(Fennel-like.)
Hydrocotyle, L.
Eriginia, N.
Sanicula, L.
Zizia, Koch.
Coriandrum.
Bupleurum, L.
Seseli, *L.*
Angelica, *L.*
Carum.
Polytaenia, Dc.
Daucus, *L.*
Anethum.
Eryngium, *L.*
Sison.
Cnidium.
Archemora, Dc.
Œnanthe, *L.*
Cynosciadium, Dc.
Thapsia, L.
Ferula, *L.*
Pastinaca, *L.*
Trepocarpus, N.
Eulophus, N.
Cymopterus, Raf.
Apium.
Cicuta, L.
Helociadium, Koch.
Discopleura, Dc.
Leptocaulis, N.
Sium, *L.*
Urospermum.
Cryptotaenia, Dc.
Ligusticum, *L.*
Thapsium, N.
Peucedanum, Koch.
Heracleum, *L.*
Aethusa.
2. *Campylospermae.*
(Hemlock-like.)
Conium, *L.*
3. *Coelospermae.*
Atrema, Dc.

CLASS TWELFTH.
STAMENS BELOW THE GERM.

LXI. RANUNCULACEAE.
A. RANUNCULACEAE.
Acrid, caustic, poisonous.
Tribe 1. *Clematidae.*
(Virgin-bower-like.)
Atragene.
Clematis, *L.*
T. 2. *Anemoneae.*
(Wind-flower-like.)
Thalictrum, *L.*
Hydrastis, *L.*
Anemone, *L.*
Adonis, *L.*
Hepatica, *L.*
T. 3. *Ranunculaceae.*
(Crow-foot-like.)
Myosurus, *L.*
Ranunculus, L.
T. 4. *Helleborinae.*
(Columbine-like.)
Caltha, L.
Enemion, R.
Helleborus.
Trollius, L.
Aquilegia, L.
Delphinium, L.
Coptis, Sy.
Chrysocoptis, N.
Nigella.
Aconitum, L.
T. 5. *Paeoneae.*
(Peony-like.)
Actaea, *L.*
Xanthorhiza, *L.*
Cimicifuga, *L.*
Paeonia, *L.*
Macrotys, R.
Hydropeltis.
Nectris.

LXII. PAPAVERACEAE.
A. PAPAVERACEAE.
(Poppy-like.)
Narcotic, anodyne.
Papaver, *L.*
Eschscholtzia, Cham.
Sanguinarea, *L.*
Argemone, *L.*
Meconopsis, Vig.
Glaucium, *L.*
(Stylophorum, N.)
Chelidonium, *L.*
B. NYMPHÆACEAE.
Sedative and narcotic.
Nymphaea, S.
Nuphar, S.
C. NELUMBONEAE.
Tonic and Cathartic.
Nelumbium, Ju.
D. PODOPHYLLEAE.
Cathartic.
Podophyllum, *L.*
Jeffersonia, B.
E. SARRACENIEAE.
Slightly cathartic.
Sarracenia, *L.*

LXIII. CRUCIFERAE.
A. CRUCIFERAE.
Antiscorbutic and nutritious.
T. 1. *Pleurorhizeae.*
(Water-cress-like.)
Cheiranthus, R. Brown.
Braya, Sternb.

Cardamine, L.
Vesicaria, *Lk.*
Cochlearia, *L.*
Isatis.
Selenia, N.
Nasturtium, R. Brown.
Turritis, *L.*
Dentaria, *L.*
Parrya, R. Brown.
Alyssum, *L.*
Thysanocarpus, Hk.
Iberis, *L.*
Streptanthes, N.
Barbarea, R. Brown.
Arabis, *L.*
Macropodium, R. Br.
Myagrum.
Draba, *L.*
Erophila. Dc.
Thlaspi, L.
Capsella, Vent.
Hutchinsia, R. Brown.
Cakile, L.
T. 2. *Notorhizeae.* (Pepper grass-like.)
Hesperis, L.
Stanleya, N.
Warea, N.
Coronopus.
Sysimbrium, L.
Senebiera, Poir.
Erysimum, *L.*
Oreas, Cham, & Schlecht.
Lepidium, *L.*
Platyspermum, Hk.
T. 3. *Orthoplocene.* (Mustard-like.)
Sinapis, *L.*
Brassica, *L.*
Raphanus.
T. 4. *Diplecolobeae.*
Subularia, *L.*

LXIV. CAPPARIDES.
A. CAPPARIDEAE.
Cleome, L.
B. RESEDACEAE.
Tonic; used in dyeing.
Reseda.

LXV. SAPINDI.
C. SAPINDACEÆ.
Tonic or poisonous.
Cardiospermum, *L.*
Sapindus, *L.*

LXVI. ACERA.
A. HIPPOCASTANAE. (Horse chesnut-like.)
Aesculus, L.
Pavia, Boerh.
B. ACERINEÆ.
Sugary, nutritious, tonic.

LXVII. MALPIGHIAE.

LXVIII. HYPERICA.
A. HYPERICINEÆ. (Johnswort-like.)
Cathartic and febrifuge.
Hypericum, *L.*
Ascyrum, *L.*
Sarothra.
B. DROSERACEÆ. (Sundew-like.)
Slightly acrid, tonic.
Drosera, *L.*
Dionaea, *L.*

LXIX. GUTTIFERAE.
A. GUTTIFERÆ.
Cathartic, acrid.
Eluysia.

LXX. AURANTIA.
A. TERNSTROMIACEÆ. (Tea-like.)
Stomachic, tonic, refrigerant.
Thea.
Gordonia, Ellis.
Malachodendron, Cav.
Stuartia, Cav.
B. AURANTIACEÆ. (Orange-like.)
Stomachic, tonic. refrigerant.
Citrus.

LXXI. MELIAE.
A. MELIACEÆ.
Tonic.
Melia, L.
B. CEDRELEÆ. (Mahogany.)
Febrifuge.
Swietenia, L.
C. STYRACEÆ. (Benzoin-like.)
Stomachic, aromatic, astringent.
Styrax, L.
Hopea,
Halesia, L.

LXXII. VITES.
A. VITES.
Refrigerant, tonic, acid.
Ampelopsis, Mx.
Vitis, L.

LXXIII. GERANIAE.
A. GERANIACEAE. (Geranium-like.)
Astringent, aromatic.
Geranium, L.
Pelargonium.
Erodium.
B. OXALIDEAE. (Sorrel-like.)
Refrigerant, tonic.
Oxalis, *L.*
C. Tropaeoleae.
Tropaeolum.
D. BALSAMEAE.
Scarcely cathartic.
Impatiens, *L.*

LXXIV. MALVACEAE. (Mallows-like.)
A. MALVACEAE.
Mucilaginous, all wholesome.
Althea.
Malope, *L.*
Lavatera.
Sida, L.
Nuttallia, Dick.
Gossipium.
Malva, L.
Malvaviscus, Dill.
Hibiscus, L.

LXXV. MAGNOLIAE.
A. Magnoliaceae.
Tonic, fragrant.
Magnolia, L.
Liriodendron, L.
B. Wintereae.
Stomachic, carminative.
Illicium, L.

LXXVI. ANNONAE.
A. Annonaceae.
Aromatic.
Porcelia.
Annona, Adans.

LXXVII. MENISPERMA.
A. Menispermeae.
Tonic, rarely narcotic.
Menispermum, L.
Schizandra, Mx.
Cissampelos, D. C.
Wendlandia.

LXXVIII. BERBERIDES, (Barbery-like.)
A. Berberideae.
Refrigerant, tonic.
Berberis, L.
Caulophyllum.
Achlys, Dc.
Diphylla, Mx.
B. Hamamelideae.
Tonic.
Hamamelis, L.
Fothergilla, L.

LXXIX. TILIACEÆ. (Bass-wood-like.)
A. Tiliaceae.
Emolient.
Tilia, L.

LXXX. CISTI.
A. Violaceae.
Emetic, tonic.
Viola, L.
Ionidium, Dc.
B. Cisteneae.
Stomachic, tonic.
Cistus.
Hudsonia, L.
Lechea, L.

LXXXI. RUTACEÆ.
A. Rutaceae.
Tonic.
Ruta.
B. Zygophylleae.
Tribulus, L.

LXXXII. CARYOPHYLLEÆ. (Pink-like.)
A. Lineae. (Flax-like.)
Emolient.
Linum, L.
B. Caryophylleae. (Pink-like.)
Emollient.
1. *Sileneae.*
Dianthus, L.
Silene, L.
Saponaria, L.
Lychnis, L.
Cucubalus, L.
2. *Alsineae.*
Sagina, L.
Spergula, L.
Arenaria, L.
Mollugo, L.
Stellaria, L.
Cerastium, L.
Holosteum, L.
Micropetalon.

CLASS THIRTEENTH.
Stamens surrounding the germ.

Lxxxiii. SEMPERVIVEÆ.
A. Crassulaceae.
Refrigerant, emollient.
Sempervivum.
Lewisia, Ph.
Tillaea, L.
Penthorum.
Sedum, L.
B. Gallacineae.
Scarcely tonic.
Galax, L.

Lxxxiv. SAXIFRAGÆ.
B. Saxifrageae.
Astringent.
Saxifraga, L.
Leptarrhena, R. Brown.
Adoxa, L.
Tiarella, L.
Heuchera, L.
Itea, L.
Parnassia, L.
Chrysosplenium, L.
Tellima, R. Brown.
Drummondia, Dc.
Mitella, L.

LXXXV. CACTI. (Prickly-pear-like.)
A. Grossulariae. (Gooseberry and currant.)
Refrigerants, tonics, emetics.
Ribes, L.
B. Cacteae. (Prickly pear-like.)
Refrigerants, demulcents.
Cactus.

Lxxxvi. PORTULACCEÆ. (Purslane-like.)
A. Elatineae.
Scarcely tonic.
Crypta, N.
B. Portulaccaceae. (Purslane-like.)
Emollient, scarcely tonic.
Portulacca, L.
Montia, L.
Talinum, L.
Claytonia, L.

LXXXVII. FICOIDEÆ. (Fig-like.)
A. Ficoideae.
Emollient, nutritious.
Mesembryanthemum.
Sesuvium, L.
Ficus, L.

Lxxxviii. ONAGRÆ.
A. Onagrariae.
Emollient.
Epilobium, L.
Oenanthera, L.
Isnardia, Dc.
Ludwigia.

Clarkia, Ph.
Gaura, L.
Jussiaea, L.
B. Halorageæ.
Aperient, tonic.
Proseripnaca, L.
Myriophyllum, L.
Hippurus, *L.*
C. Circaeaceæ, (Enchanter's shade.)
Feebly cathartic.
Circaea, *L.*
D. Callitrichineæ.
Emollient, cooling.
Callitriche, *L.*
E. Ceratophylleæ.
Sub-tonic.
Cerratophyllum, *L.*
F. Hydrocharideæ.
Sub-tonic.
Fuchsia.
Mentzelia, *L.*
G. Laoaseæ.
Bartonia, N. & Ph.
H. Turneraceæ.
Sub-tonic.
Turnera, *L.*
Torreya, Ea.

LXXXIX. MYRTI.
A. Philadelpheæ. (Mock-orange-like.)
Tonic, aperient.
Philadelphus, *L.*
Decumaria, *L.*
B. Myrtaceæ. (Myrtle-like.)
Aromatic, stomachic.

XC. MELASTOMÆ.
A. Melastomaceæ.
Astringent, refrigerant.
Rhexia, *L.*

XCI. SALICARIÆ.
A. Salicarieæ.
Astringent, vulnerary.
Ammannia, *L.*
Lythrum, *L.*
Cuphea, *L.*
B. Rhizophoreæ.
Astringent.
Rhizophora, *L.*

XCII. ROSACEÆ.
A. Calycantheæ.
Aromatic, sub-tonic.
Calycanthus, L.
B. Sanguisorbeæ. (Burnet-like.)
Sanguisorba, L.
Poterium, L.
Alchemilla, L.
C. Rosaceæ.
Astringent, refrigerant, febrifuge.
1. *Potentilleae.* (Five-finger-like.)
Potentilla, L.
Stylipus, Raf.
Agrimonia, Tourn.
Comarum.
Horkelia, Cham.
Fragaria, L.
Geum, L.
Sieversia, W.
Rubus, L.
Dalibarda, L.
Dryas, L.
Sibbaldia, L.
2. *Roseae.* (Rose-like.)
Rosa, L.
3. *Spiraeaceae.*
Spiraea, L.
Purshia, Dc.
Gillenia, Mn.
D. Pomaceæ. (Apple-like.)
Refrigerant, aperient, tonic.
Aronia.
Amelanchier, Med.
Mespilus.
Pyrus, L.
Crataegus, L.
Sorbus.
E. Amygdaleæ. (Peach & plum-like.)
Astringent, febrifuge, seed and leaves often narcotic.
Prunus, L.
Amygdalus.
F. Chrysobalaneæ.
Sub-tonic and nutritious.
Chrysobalanus, L.
Floerkea, W.

XCIII. LEGUMINOSÆ. (Pea like.)
A. Leguminosæ. (Indigo & clover like.)
Nutritious, antiscorbutic, aperient.
Curvembriae. (Radicles reflexed on the Cotyledons.)
1. *Papilionaceae.* (lobes of the calyx distinct.)
Sophora, R. Brown.
Baptisia, Vent.
Medicago, L.
Trigonella.
Indigofera, L.
Petalostemum, Mx.
Tephrosia, Persoon.
Robinia, L.
Dolichos.
Astragalus, L.
Spartium.
Coronilla.
Lespedeza, Mx.
Pisum, L.
Phaseolus.
Erythrina.
Thermia.
Crotallaria, L.
Hosackia, Benth.
Trifolium, L.
Vexillaria, Ea.
Dalea, L.
Amorpha, L.
Sesbania, P.
Phaca, L.
Zornia, Gn.
Ulex, L.
Arachis.
Vicia, L.
Lathyrus, L.
Lupinaster.
Virgilia, Lamk.
Genista, L.
Melilotus, Tourn.
Psoralea, L.
Galactia, L.
Pitcheria, N.
Glycirrhiza, L.
Colutea.
Cicer.
Oxytropis, Dc.
Stylosanthes, Swtz.

Aeschynomene, L.
Hedysarum, L.
Ervum, L.
Orobus, L.
Lupinus, L.
Retembriae. (Radicle straight.)
2. *Mimoseae.* (Divisions of the calyx and corol valvate in aestivation.
Darlingtonia, Dc.
Acacia, Necker.
Schranckia, W.
Prosopis, L.
3. *Caesalpineae.* (Petals imbricate in aestivation.)
Cassia, L.
Gleditschia, L.
Gymnocladus, L.
Cercis, L.
Pomaria, Cav.
B. Polygaleæ.
(Seneca snake-root.)
Stimulant, diuretic.
Polygala, L.
Krameria, L.
C. Fumariaceæ.
Diuretic, aperient, diaphoretic.
Corydalis, Dc.
Fumaria, L.

XCIV. TEREBINTACEAE.
A. Amyrideæ.
Amyris.
B. Juglandeæ.
Cathartic, astringent.
Juglans, L.
Carya, N.
C. Anacardiaceæ.
Poisonous, acrid, astringent.
Rhus, L.
D. Xanthoxyleæ.
Xanthoxylum.

XCV. RHAMNI.
A. Celastrineæ.
Cathartic.
Celastrus, L.
Euonymus, L.
B. Rhamneæ.
Cathartic.
Rhamnus, L.
Zizyphus.
Ceanothus, L.
C. Staphylaceæ.
Cathartic.
Stapphylea, L.
D. Ilicineæ.
Tonic, astringent.
Ilex, L.
Nemopanthes, R.
Prinos, L.
Myginda, Jacq.

CLASS FOURTEENTH.
Flowers mostly apetalous.

XCVI. EUPHORBEÆ.
A. Euphorbiaceæ. (Spurge, caper.)
Tonic, irritating, stomachic.
Pachysandra, Mx.
Borya, W.
Phyllanthus, L.
Acalypha, L.
Croton, L.
Tragia, L.
Jatropha, L.
Euphorbia, L.
Crotonopsis, Mx.
Styllingia, L,
Ricinus, L.
Buxus.
B. Empetreæ.
Sub-tonic.
Empetrum, L.
Ceratiola, Mx.

XCVII. CUCURBITACEÆ.
A. Passifloreæ. (Passion-flower.)
Fragrant, sub-tonic.
Passiflora, L.
B. Papayaceæ. (Papaw tree.)
Solvent, vermifuge.
Carica, L.
C. Cucurbitaceæ.
Nutritious, refrigerant, cathartic.
Cucumis, L.
Melothria, L.
Sicyos, L.
Momordica, L.

XCVIII. URTICEAE.
A. Urticeæ. (Nettle-like.)
Narcotic, tonic, anodyne.
Urtica, L.
Humulus, L.
Parietaria, L.
Boehmeria, W.
Cannabis, L.
B. Atrocarpeæ. (Poison upas & Caoutchouc tree are here.)
Morus, L.
Maclura, N.
C. Datisceæ.
Broussonetia.
Datisca, L.
D. Saurureæ.
Cathartic.
Saururus, L.
E. Piperaceae. (Pepper.)
Piper, L.

XCIX. AMENTACEÆ.
A. Ulmaceæ. (Elm.)
Emollient, tonic.
Ulmus, L.
Planera, Gmel.
Celtis, L.
B. Cupuliferæ. (Oak.)
Quercus, L.
Corylus, L.
Castanea, Tourn.
Fagus, L.
C. Betulineæ. (Birch-like.)
Astringent, febrifuge, stomachic.
Betula, L.
Ostrya, Mx.
Alnus, W.
Carpinus, L.

D. SALICINEÆ. (Willow.)
Astringent, tonic, stomachic.
Salix, L.
Populus, L.

E. PLATANÆE. (Button-wood.)
Tonic, aromatic.
Platanus, L.
Liquidambar, L.

F. MYRICEÆ. (sweet-fern.)
Aromatic, astringent, stomachic.
Myrica, L.
Comptonia, Gaert.

C. CONIFEREÆ.

A. CYCADEÆ. (Sago-plant.)
Emollient.
Cycas.
Zamia, L.

B. CONIFERÆ. (Pines.)
Balsamic, stomachic, healing.
Juniperus, L.
Pinus, L.
Thuja, L.
Taxus, L.
CUPRESSUS, L.

The preceding synopsis of the Natural Method is intended chiefly, for aiding students in arranging their plants in the Herbarium. Though the Artificial System of Linneus is the only known system by which the names of plants can be ascertained with any degree of facility, their physiology, affinities, and properties, must be studied under a systematic view of their *natural associations*. All systems, studied threadbare, will not compare as an auxilliary with the exhibition of an herbarium, thus arranged.

NORTH AMERICAN PLANTS.

GENERA.

CLASS I. MONANDRIA.

Order I. Monogynia.

Salicornia. Calyx fleshy; entire, 3 or 4-sided, obconic: corol 0: stamen in the bottom of the calyx: style 2-cleft: seed 1, vertically compressed, enclosed in the calyx. 12. 29—(saphmire.) *S.*

Hippuris. Calyx superior, obsolete, with a 2-lobed margin: corol 0: seed 1: stigma simple: style in a groove of the anthers: germ crowned by the rim of the calyx. 15. 88—(marestail.)

Southern.

Canna. Calyx double; outer one short, 3-cleft, permanent: inner one (or corol) 6-parted; one of the divisions reflexed: anther simple: attached to the margin of the filament, which is petal-like and 2-lobed: style thick, club-form; stigma linear obtuse: capsule muricate, 3-celled: seeds numerous and globose. 8. 20—(flowering reed.)

Thalia. Calyx double; outer one small, 3-leaved; inner one (or petal) 5-parted: anther simple, ovate, inserted into a depressed filament: style short, bent from the anther: stigma perforated, depressed, ringent: capsule 2-celled, (in some species a 1-celled nut) 8. 20—(long stems.)

*Scirpus, Cyperus.

Order II. Digynia.

Callitriche. Calyx inferior, 2-leaved: capsule 2-celled, membranaceous and margined: seeds 4, naked; compressed: (flowers sometimes monœcious, and by some the calyx is called the corol.) 12. 88—(water-starwort.) *S.*

Blitum. Calyx 3-cleft, or 3-parted, berry-like: corol 0: seed 1, immersed in the calyx. 12. 29—(blite.)

Southern.

Cenchrus. Calyx 2-parted or 2-leaved: corol 0: seed 1, naked, plano-convex, oval, having an acute, circular margin. Stamens sometimes 5. 12. 29—(tickseed) *S.*

*Uniola, Saccharum.

CLASS II. DIANDRIA.

Order I. Monogynia.

A. *Corol, 1-petalled, inferior, regular: seeds in a drupe or nut.*

Ligustrum. Calyx 4-toothed: corol with 4 ovate divisions: berry 1 or 2-celled, 2 to 4-seeded. 44. 34—(prim.)

Chionanthus. Calyx 4-parted: coral 4-parted, with very long divisions: nucleus of the drupe striate-fibrous. 44. 37—(fringe tree.) *S.*

Ornus. Calyx 4-parted: corol 4-parted; divisions long, ligulate: stamens with two barren filaments: fruit with a winged nut. 44. 34—(flowering ash.)

Exotic.

Jasminum. Corol salver-form; 5 to 8-cleft: berry 2-seeded, each seed solitary, arilled. 44. 34—(jasmine.)

Syringa. Corol salver-form 4-cleft: capsule 2-celled. 44. 34—(lilac.)

Southern.

Olea. Calyx small, 4-toothed: corol with a short tube, 4-cleft, segments ovate: drupe 1-seeded, often with an abortive rudiment. 44. 34—(american olive.)

Elytraria. Calyx 4 or 5-parted, with the front segment cleft: corol 5-cleft, segments nearly equal, stamens with 2 barren filaments: capsule 2-celled, 2-valved; each valve having half the partition attached to it. 40. 39.

B. *Corol 1-petalled, inferior, irregular; seeds in capsules.*

Veronica. Calyx 4-parted: corol cleft into 4 lobes, lower division smaller: capsule obcordate, few-seeded, 2-celled. 40. 37—(speedwell.) *S.*

Leptandra. Calyx 5-parted, acuminate: corol tubular, 4-cleft, with one division smaller: capsule ovate, 2-celled, opening at the top. 40. 37—(culver's physic.) *S.*

Gratiola. Calyx 5-parted or 5-leaved, sometimes with a 2-leaved calycle: corol 2-lipped, reversed, tubular, upper lip 2-lobed, under one equally 3-cleft: stamens 4, (2 of them barren:, stigma 2-lipped: capsule 2-celled. 40. 37—(hedge-hyssop.) *S.*

Lindernia. Calyx 5-parted, equal: corol reversed, tubular, ringent, the upper lip very short, the lower one unequally 3-cleft, 2-keeled at the base: anthers cohering by pairs, 2 stamens longer, forked, barren: capsule 2-celled, 2-valved, the partition parallel to the valves. 40. 37. *S.*

Pinguicula. Calyx 2-lipped, upper lip 3-cleft, lower one 2-cleft: corol ringent, with a spur at the base; limb 2-lipped, upper lip 3-lobed, lower one 2; throat contracted: stamens and style short: stigma 2-lipped, covering the anther: capsule 1-celled, many seeded, receptacle of the seed central, unconnected. 24. 35—(butterwort.) *S.*

Henianthus. Calyx tubular, border 4-toothed, cleft on the underside: corol with the upper lip obsolete, lower one 3-parted, with the middle segment linear, or strap-like and truncate, long, closely incurved: stamens with 2-cleft filaments, bearing the anthers on the lateral branches: capsules 1-celled, 2-valved, many-seeded: seeds ovate, shining. 40. 37.

Catalpa. Corol 4 or 5-cleft, somewhat inflated, bell-form, calyx 2-parted or 2-leaved: stigma 2-lipped: capsule cylindric, 2-celled. 40. 40.—(catalpa tree.) *S.*

JUSTICIA. Calyx simple or double, 5-parted: corol ringent, or nearly equal, upper lip emarginate, lower one 3-cleft: anthers 1 or 2 on each filament: capsule 2-celled, bursting with an elastic claw, partitions transverse. 40. 36—(malabar nut.) *S.*

UTRICULARIA. Calyx 2-leaved or 2-parted, equal: corol ringent, with a sub-cordate palate, the upper lip bearing the stamens, the lower lip spurred: stigma 2-lipped: capsule 1-celled, globular. 24. 35.—(bladder-wort.) *S.*

Southern.

MICRANTHEMUM. Calyx 4-parted: corol 4-parted, and somewhat 2-lipped, with the upper one smaller than the rest: filaments incurved, shorter than the corol: capsule sub-globular, 1-celled, 2-valved, with many striate seeds. 20. 35.

C. *Corol 1-petalled, inferior, irregular, seeds naked.*

LYCOPUS. Calyx tubular, 5-cleft or 5-toothed: corol tubular, 4-cleft, nearly equal, 1 division broader and emarginate: stamens distant: seeds 4, retuse. 42. 42—(water horehound.) *S.*

MONARDA. Calyx cylindric, striated, 5-toothed: corol ringent, tubular, upper lip lance-linear, involving the filaments, lower lip reflexed, 3-lobed. 42. 42—(Oswego tea, mountain mint.) *S.*

SALVIA. Calyx tubular, striated, 2-lipped, upper lip 2 to 3-toothed, lower lip 2-cleft: corol ringent: filaments transversely or laterally affixed to a pedicel. 42. 42—(sage.) *S.*

COLLINSONIA. Calyx tubular, 2-lipped, upper lip 3-toothed; corol funnel-form, unequal, under lip many-cleft, capillary: one perfect seed. 42. 42—(horse-balm.) *S.*

Exotic.

ROSMARINUS. Corol ringent, upper lip 2-parted: filaments long, curved, simple, with a tooth. 42. 42—(rosemary.)

D. *Corol superior.*

CIRCÆA. Calyx 2-leaved or 2-parted: corol 2-petalled: capsule hispid, 2-celled, not gaping; cells 1 or 2-seeded. 48. 88—(enchanter's nightshade.) *S.*

*Salicornia, Cunila, Schoenus, Scirpus, Verbena, Hedeoma, Lemna, Crypta.

ORDER II. DIGYNIA.

ANTHOXANTHUM. Calyx glume 2-valved, 1-flowered: corol glume 2-valved, accuminate, awned near the base. 4. 10—(sweet vernal grass.) *S.*

CRYPTA. PEPLIS. Calyx 2-leaved, inferior: corol 2 or 3-petalled, closed: styles none: stigmas 2 or 3, very minute: capsule 2 or 3-celled, 2 or 3-valved: cells 4 or 5-seeded; seeds sub-cylindric, striate, incurved. 13. 86—(mud-purslane.) The corol appears like a capsule with an aperture at the top, when examined without a lens.

Southern.

ERIANTHUS. Calyx 2-valved, valves nearly equal, villose at the base: corol 2-valved, unequal, inner glume bearing a long awn near the summit. 4. 10.

*Holcus, Festuca, Saccharum.

Order III. Trigynia.

Piper. Calyx 0: corol 0: berry 1-seeded: spadix simple, slender, covered with little flower-bearing scales. 2. 98.

CLASS III. TRIANDRIA.

Order I. Monogynia.

A. *Flowers superior.*

Fedia. Calyx 3 to 6-toothed, permanent: corol tubular, 5-cleft or 5-parted: nut or capsule 2 or 3-celled: seed naked, or crowned with a tooth. 48. 56—(lamb-lettuce.) *S.*

Iris. Calyx spathe 2 or 3-valved: corol 6-parted, divisions alternately reflexed: stigmas 3, petal-like: style short: capsule 3-celled. 6. 18—(flower-de-luce, iris or flag.) *S.*

Dilatris. Lachnanthes. Perianth petal-like, hirsute outside, permanent, deeply divided into 6 nearly equal parts: the third filament less than the rest: stigma minutely 3-lobed, style declining: capsule globose, 3-celled. 6. 18.

Patrinia. Calyx with the limb truncate, or erect, very short, sub-5-toothed: corol regular, obtusely: 5-lobed not spurred: stamens 4, adnate to the tube of the bottom of the corol, alternating with the lobes uppermost deficient, rarely 5: all then standing together: stigma in a 3-cornered head: capsule 3-celled, crowned with the limb of the calyx. 48 56.

Plectritis. Calyx with the margin straight entire: corol with the tube short-spurred at the base gibbose before, limb 5-cleft 2-lipped: capsule 1-celled 2-winged. 48. 56.

Valerianella. Calyx with the limb toothed permanent: corol not spurred regular 5-lobed: stigma sub-trifid: capsule 3-celled, submembranous crowned with the thickened variably toothed limb of the calyx. 48. 56.

Exotic.

Valeriana. Calyx 0, or with an extremely small margin: corol funnel-form, 5-cleft, base gibbose: seed 1: stamens, 1, 2, 3 and 4; exsert. 48. 56—(valerian.)

Crocus. Spathe radical: corol funnel-form, with a long slender tube: stigma deep-gashed, crested. 6. 18—(saffron.)

Southern.

Phyllactis. Involucre 1-leaved, sheathing: calyx marginal, minute: corol 3-cleft: seed 1: styles and stamens exsert. 48. 56.

Apteria. Calyx 0: corol monopetalous, wingless, bell-tubular with the margin 6-toothed alternately smaller; capsule 1-celled, valveless: seeds numerous minute. 40. 13.

Tripterella. Calyx (or corol) tubular, prismatic, with winged margins; base ventricose; limb 6-cleft, internal teeth covering the stamens: corol none: stigmas 3, capitate: capsule 3-sided 3-celled, many-seeded: stamens included within the tube of the calyx. 40. 18.

Boerhaavia. Calyx tubular; margin entire: corol 1-petalled, bell-form, plaited: seed 1, invested by the permanent calyx, naked or tuberlled, 5-grooved, obconic: stamens various in number, as 1, 2, 3, 4, 10. 54. 32.

CALYPTENIA. ALLIONIA. Involucre perianth-like, 5-parted, permanent, 1 to 5-flowered: perianth none: corol sub-campanulate, plaited, 5-parted; laminae emarginate; tube permanent: stamens exsert: seed 1, covered with a coriaceous membrane, obconic, 5-furrowed. 48. 32.

IXIA. Spathe 2 or 3-valved, ovate, short: corol 6-parted or 6-petalled, sometimes tubular: stamens straight or incurved: stigmas sub-filiform. 6. 18.

B. *Flowers inferior.*

COMMELINA. Spathe cordate; perianth 3-leaved: corol 3-petalled, sub-equal: 3 barren filaments—sometimes the whole 6 filaments bear anthers: stigma simple: nectaries 3, cross-form, inserted on peculiar filaments: capsule sub-globose, 3-celled, cells 2-seeded or empty. 6. 13—(day flower.) *S.*

XYRIS. Calyx a cartilaginous glume, 2 or 3-valved, in a head: corol 3-petalled, equal, crenate: capsule 3-valved, many seeded. 6. 13—(yellow eyed-grass.) *S.*

SCHOLLERA. LEPTANTHUS. Spathe 1-flowered; corol long-tubular: border 6-parted, with the stamens on the divisions: filaments equal. 6. 17.

HETERANTHERA. Calyx a 2 or 3-flowered spathe: corol dull-colored, membranaceous, with a long slender tube, border 4 to 6-parted: anthers 3, 2 of them attached to the divisions of the corol, the other attached to the top of the style, and much longer: stigma sub-capitate, 1-sided: capsule 3-celled, many-seeded dehiscent at the angles. This genus is intermediate between the class Triandria, and the class Gynandria. 6. 17.

Southern.

STENA. Calyx deeply 3-parted (or 3-leaved) acute, permanent: petals 3, roundish: anthers oblong: stigma 3-cleft: capsule rendered acuminate by the permanent style, 1-celled, 3-valved. 5. 17.

STIPULICIDA. Calyx 5-parted, permanent: corol 5-petalled, entire, as long as the calyx: style short, stigmas 3: capsule 1-celled, 3-valved: seeds few, attached by filaments to the receptacle. 22. 30.

POLYCHNEMUM. Calyx 3-leaved: petals calyx-like: capsule 1-seeded, membranaceous, not opening, covered by the calyx. Stamens vary from 1 to 5. 12. 29.

C. *Flowers with glumes.*

KYLLINGIA. Spike (or ament) roundish-oblong, imbricate, sessile, or umbel-like: calyx of 2 unequal leaves, or valves, 1-flowered: corol 2-valved, longer than the calyx. 3. 9—(bog-rush.) *S.*

SCIRPUS.* Glume 1-valved, 1-flowered, chaffy, scales imbricated every way: styles filiform, caducous: corol 0: seed single, naked, or surrounded with hairs or bristles. 3. 9—(club-rush) *S.*

SCHOENUS. Spikelets sub-convolute, acute; scales or glumes heaped in fascicles, outer ones dry, shining, empty: corol 0: seed 1, roundish, naked; style caducous. 3. 9—(bog-rush.) *S.*

RHYNCOSPORA. Scales or glumes of the calyx fascicled into a spike, lower ones empty: corol 0: styles permanent at the base: bristles surrounding the base of the seed. 3. 9—(false bog-rush.) *S.*

*TRICHOPHORUM is united to this genus.

MARISCUS. Flowers distinct, sub-imbricate in a few-flowered spike: calyx 2-valved, 3-flowered: corols 1-valved, the lower corols embracing the upper: style 3-cleft. 3. 9—(hedgehog-rush.) *S.*

DULICHIUM. Spikes sub-racemed, proceeding from the axils of the leaves: spikelets linear-lanceolate, sub-compressed: scales or glumes somewhat 2-ranked, closely embracing: styles very long, 2-cleft: germ with small bristles, rough backwards. 3. 9—(galingale.) *S.*

CYPERUS. Corol 0: calyx scales imbricated 2-ways: seed single, beardless: spikelets compressed, distinct. 3. 9. *S.*

ERIOPHORUM. Glume chaffy, 1-valved, imbricated every way into a spike: corol 0: seed beset round with very long dense woolly hairs. 3. 9—(cotten grass.) *S.*

FUIRENA. Scales of the calyx mucronate or awned, every where imbircate in a spike: corol 0: seed beset round with broad chaff-like scales, sometimes awned. These scales are called valves of a corol by some. 3. 9—(umbrella-grass.) *S.*

CENCHRUS. Involucre lacinate, echinate, 3 or 4-flowered: glumes 2-valved, 2-flowered, one flower barren: corol 2-valved, awnless: stlye 2-cleft. 4. 10—(hedge hog-grass.) *S.*

LIMNETIS. SPARTINA. Calyx 2-valved, compressed, one of them keeled and longer than the other: corol 2-valved, awnless, unequal, flowers in unilateral spikes, somewhat imbricated in 2 rows. 3. 10—(salt grass.) *S.*

ORYZOPSIS. Calyx 2-valved, lax, obovate: corol coriaceous, cylindric-ovate, surrounded with hairs at the base; valves 2, outer one awned at the tip; seed with 2 linear appendages, or one 2-parted: styles united in one, with 2 diverging or reflexed stigmas. 4. 10—(mountain rice.)

Southern.

MAPANIA. Flowers in heads, involucre 3-leaved: perianth none: corol glumaceous, 6-valved, toothed, imbricate: stigmas 3: seeds enveloped in a 6-parted glume. 3. 9.

FIMBRISTYLIS. Scales of the calyx imbricated on all sides into a spike: corol none: style ciliate, caducous, bulbous at the base. 3. 9.

VAGINARIA. Spike ovate, calyx-like scales imbricated on all sides, acuminate: corol none: stigmas 3: seed surrounded at the base with three scales and three bristles. 3. 9.

NARDUS. Calyx 1-flowered, 1-valved: corol 1-valved, included in the calyx: stigma 1. Flowers spiked, alternating and sessile. 4. 10—(mat-grass.)

MIEGIA. ARUNDINARIA. Flowers polygamous, panicled: calyx 2-valved, many-flowered, short and unequal: corol 2-valved, unequal, the larger one acuminate: style very short, 3-cleft, plumose: nectary 3-parted, divisions lanceolate, acute, as long as the germ: seed naked, large, acuminate. 4. 10—(cane.)

ERIOCOMA. Calyx 2-valved, 1-flowered; valves gibbous, compacted above, longer than the corol, 3-nerved, cuspidate: corol 2-valved, roundish, coriaceous, invested with wool; the outer valve terminated by a short 3-side caducous awn: anthers bearded: seed sub-spherical, large. 4. 10—(silk-grass.)

DICHROMENA. Spike in a head, involucred; scales imbricated on all sides into crowded sessile spikelets, with the lower scales empty: corol

none: style bristle-form, 2-cleft: seed without bristles, sub-lenticular, sub-rugose, terminated by the triangular permanent style. 4. 9.

*Juncus, Galium, Oryzopsis, Queria.

ORDER II. DIOYNIA.

A. *Spikelets 1-flowered: corols without abortive rudiments of flowers at the base.*

(Calyx and corol different in texture.)

LEERSIA. Caylix 0: coral 2-valved, closed: valve compressed, boat-form, awnless: nectary obovate, entire; stamens 1 to 6. 4 10—(cut-grass.) *S.*

PASPALUM. CERESIA. Calyx in 2 membranaceous, equal, roundish, valves: corol awnless, cartilaginous, of the form of the calyx: stigma plumose, coloured: nectary lateral: flowers in unilateral spikes. 4. 10. *S.*

MILIUM. Calyx 2-valved, herbaceous, ventricose: corol 2-valved, awnless, coriaceous, oblong, concave, shorter than the calyx: seed 2-horned: nectary lateral: stigmas villose. 4. 10—(millet.) *S.*

PIPTATHERUM. Calyx membranaceous, longer than the corol: corol cartalaginous, oval; lower valve awned at the tip; nectary ovate, entire: seed coated. 4. 10.

STIPA. Calyx 2-valved, membranaceous: corol 2-valved, shorter than the calyx, coriaceous, sub-cylindric; valves involute, truncate; awn terminal, very long, caducous, twisted at the base: seed coated. 4. 10—(feather-grass.) *S.*

ARISTIDA. Calyx 2-valved, membranaceous, unequal: corol 2-valved, pedicelled, sub-cylindric: lower valve coriaceous, involute, 3-awned at the tip; upper valve very minute: or obsolete: nectary lateral. 4. 10.—(bread-grass.) *S.*

Exotic.

SACCHARUM. Calyx involucred with long wool at the base, 2-valved: corol 1 or 2-valved: stamens 1 to 3. 4. 10—(sugar cane.)

(Calyx and corol of similar texture—flowers in spreading panicles.)

MUHLENBERGIA. Calyx 1 or 2-valved, very minute, truncate, unequal: corol 2-valved, base hairy, outer valve awned at the tip; seed 1, oblong acuminate: 4. 10—(dropseed-grass.) *S.*

TRICHODIUM. Calyx 2-valved, valves nearly equal, acute; keel with small spines: corol 1-valved, awnless, shorter than calyx: stigmas nearly sessile, sub-hispid. 4. 10—(thin-grass.) *S.*

AGROSTIS. Calyx herbaceous, 2-valved, 1-flowered, valves acute, a little less than the corol: corol 2-valved, membranaceous, often hairy at the base: stigmas longitudinally hispid or plumose, florets spreading: nectary lateral: seed coated. 4. 10—(redtop.) *S.*

CINNA. Calyx 2-valved, compressed, nearly equal: corol linear, compressed, short-stiped, naked at the base; lower valve inclosing the upper, short-awned near the tip. 4. 10.

POLYPOGON. Calyx 2-valved, 1-flowered; valves nearly equal, terminating in a bristle; corol 2-valved, shorter than the calyx: the lower valve terminating in a bristle. 4. 10.

TRICHOCHLOA. Calyx 2-valved, 1-flowered; glumes very minute: co-

rol much larger than the calyx, 2-valved, naked at the base; lower valve convolute at the base, terminating in a long awn not articulated. 4. 10.

ARUNDO. Calyx 2-valved, unequal, membranaceous, surrounded with hair at the base; lower valve mucronate or slightly awned. Sometimes there is a pencil-form rudiment at the base of the upper valve. 4. 10—(reed.)

(Calyx and corol of similar texture—flowers in compact panicles, often spike-form.)

PSAMMA. Calyx 2-valved, awnless: corol shorter than the calyx, surrounded with hairs at the base: nectary lance-linear, longer than the seed: style 3-parted. 4. 10.

CRYPSIS. Calyx 2-valved, oblong, keeled, membranaceous: corol 2-valved, longer than the calyx, which it resembles in texture and form; nectary none: stamens sometimes but 2. 4. 10.

ALOPECURUS. Calyx 2-valved, equal; glumes generally connate at the base: corol 1-valved, utricle-like, cleft on one side, awned below the middle. 4. 10—(foxtail-grass.) *S.*

PHLEUM. Calyx hard, 2-valved, equal sessile, linear, truncate, bicuspidate: corol enclosed in the calyx, 2-valved, awnless, truncate. 4. 10—(timothy-grass.) *S.*

Southern.

CERESIA. Flowers lateral, 2-rowed, under a wide membranaceous boat-form rachis: calyx 2-valved. 4. 10.

CALAMAGROSTIS. Calyx 2-valved, 1-flowered, valves acute or acuminate: corol 2-valved, mostly shorter than the calyx, surrounded with long wool at the base. 4. 10.

B. *Spikelets 1-flowered; corol with 1 or 2 abortive rudiments of flowers at the base.*

(Calyx and corol of different texture.)

CYNODON. Calyx 2-valved, lanceolate, spreading: corol 2-valved, longer than the calyx: the outer valve larger, and somewhat oval, and surrounding the inner one: rudiment minute, pedicelled: nectary truncate: spikes digitate and fascicled: flowers solitary. 4. 10—(dwarf finger-grass.)

Southern.

GYMNOPOGON. ANTHOPOGON. Calyx 2-valved, keeled, nearly equal, longer than the corol: valves of the corol nearly equal; a straight bristle a little below the tip of the lower one: rudiment awn-from. 4. 10.

ANDRAXANTHUS. AULAXIA. Calyx 2-valved, 1-flowered, with the rudiment of a second; valves equal, furrowed, the furrows villous: corol with 2 nearly equal valves. 4. 10.

(Calyx and corol of similar texture.)

PHALARIS. Calyx membranaceous, 2-valved, valves keeled, nerved, equal in length, including the 2-valved pilose corol. The corol is shorter than the calyx and coriaceous: rudiments opposite, sessile, resembling valves: nectary lateral. 4. 10.—(ribbon-grass, canary-grass.) *S.*

BRACHYELYTRUM. Calyx very minute; one valve longish and acute,

the other scarcely perceptible: corol with the lower valve terminated by a bristle twice as long as the glume. 4. 10.

Southern,

BECKMANNIA. Calyx 2-valved, 1 or 2-flowered, valves somewhat obcordate, inflated, equal: corol 2-valved, included in the calyx, valves unequal, the dorsal valve acuminate-awned: one flower often abortive. 4. 10.

ORTHOPOGON. Calyx 1-flowered; valves 3, awned, nearly equal; awns straight, smooth, that of the outer valve longest. 4. 10.

C. *Spikelets many-flowered.*

(Flowers in panicles; corol unarmed.)

PHRAGMITES. Calyx 5—7-flowered; the florets on villose dedicels, excepting that the lowest is sessile, and naked at the base; lower valve enlongated, acuminate, involute; upper one somewhat conduplicate. 4. —10.

GLYCERIA. Spikelets terete, enlongated: calyx many-flowered, shorter than the florets; lower valve of the corol membranaceous and somewhat herebaceous; upper one somewhat conduplicate: nectary lateral, connate: stigma decompound. 4. 10.

UNIOLA. Spikelets many flowered, flat, 2-edged, ovate: calyx 3 to 5-glumed: corol 2-valved, awnless, inner one smallest, concave on the back; outer one boat-form: stamens 1 to 3: appendages 2, somewhat 2-horned or emarginate. 4. 10—(see rush-grass.) *S.*

BRIZA. Spikelets heart-ovate, many-flowered: calyx chaffy, shorter than the 2-ranked florets: corol ventricose: lower valve cordate, upper one orbicular, short. 4. 10—(quake-grass.) *S.*

POA. Spikelets oblong or linear, compressed, many-flowered: calyx shorter than the florets: corol herbaceous, awnless, often arachnoid at the base; lower valve scarious at the margin. 4. 10—(spear-grass.) *S.*

Exotic.

SORGHUM. Florets in pairs, one perfect, with a 3-valved corol, and sessile; the other staminate or neutral, and pedicelled. 4. 10—(broom-corn.)

(Flowers in panicles: corol armed or mucronate.)

(Seeds free.)

KOELERIA. Calyx 2—4-flowered, shorter than the florets: lower valve of the corol mucronate, or with a short bristle a little below the tip. 4. 10.

UROCHLOA. Calyx scarious, 2-valved, 2 or 3-flowered: corol 2-valved, stiped; outer valve whith hairy nerves, much longer than the calyx, and tricuspidate, with the middle cusp longest, and terminated with an awn; inner valve short and arched: seed arilled: florets alternate and distinct, both flowers and culm purple. 4. 10—(purple hair-grass.)

WINDSORIA. TRICUSPIS. Calyx 2-valved, keeled, 1-nerved, scarious, acute or cuspidate: corols 2-valved; outer valves having nerves with mucronate points, teeth between the points, and ciliate below; inner valves mostly naked, emarginate: flowers closelyimbricated 2-ways in a thick spike. 4. 10.

(Seeds adnate.)

Festuca. Calyx 2-valved, many-flowered; spikelets compressed-teretish, or diverging when mature, awnless, or furnished with a terminal awn: coral somewhat terete; upper valve acute, mucronate, or with a short bristle at the tip: seed growing to the corol. 4. 10—(fescue-grass.) *S.*

Ceratochloa. Spikelets lanceolate, somewhat 2-edged, many-flowered: calyx shorter than the imbricate florets: lower valve of the corol compressed, mucronate below the tip: upper valve somewhat conduplicate; styles 2—3-parted. 4. 10.

Diarrhena. Calyx 2-valved, very unequal, 2 to 5-flowered, rigid, upper valve 2-keeled: very rough: glumes acuminate-mucronate: corol cartilaginous; inferior valve entire, broad; superior one very short, emarginate: seed coated, in length equal with the superior valve of the corol: nectary ovate, ciliate. 4, 10.

Dactylis. Spikelets aggregated in unilateral heads, many-flowered: calyx shorter than the florets, with one large glume, keeled, pointed: corol with the lower valve keeled, emarginate, mucronate; upper valve sub-conduplicate. 4. 10—(orchard-grass.) *S.*

(Flowers in panicles; corol more or less 2-cleft, and the lower valve awned on the back or a little below the tip.)

Danthonia. Calyx 2 to 5-flowered, longer than the florets; glumes cuspidate: corol bearded at the base; lower valve 2-toothed, with a twisted awn between the teeth; upper valve obtuse, entire. 4. 10—(wild oats.)

Trisetum. Calyx 3 to 5-flowered, membranaceous, as long as the florets: lower valve of the corol with 2 bristle-form teeth at the tip, and an awn below the teeth. 4. 10.

Bromus. Calyx shorter than the florets, 2-valved: spikelets terete-2-ranked, many-flowered: corol, outer valves bifid, awned below the tip; inner valve pectinate-ciliate, sub-conduplicate. 4. 10—(chess, broom-grass.) *S.*

Arrhenatherum. Calyx membranaceous, 2-flowered, rather shorter than the florets; lower florets bearing anthers; lower valve 2-cleft, awned below the middle: upper floret perfect; lower valve cleft, unarmed, or with a short awn below the tip. 4. 10.

Avena. Calyx 2-valved; 2, 3, or many-flowered: corol, valves mostly bearded at the base, lower one torn, with a twisted awn on the back: glumes membranaceous, and somewhat folicle-like: seed coated. 4. 10—(oats.) *S.*

Aira. Calyx longer than the florets, glossy, 2-valved, 2 or 3-flowered: corol 2-valved, lower valve gnawed or toothed, awned on the back below the middle. 4. 10—(hair-grass.) *S.*

D. *Flowers in spikes.*

Lolium. Calyx 1-leafed, permanent, many-flowered: florets in many-flowered 2-rowed simple sessile spikelets on a rachis: lower valve of the corol herbaceous-membranaceous, mucranate, or bristled at the tip. 4. 10—(darnel-grass.)

Eleusine. Calyx awnless, keeled, 5 to 9-nerved, membranaceous, 4 to 6-flowered; glumes obtuse, unequal: inflorescence an unilateral di-

gitate spike: corol 2-valved, awnless, membranaceous, unequal; lower valve keeled, upper one concave on the back: seed triangular, transversely rugose. 4. 10—(dogtail-grass.) *S.*

TRITICUM. Calyx 2-valved, about 3 flowered: florets sessile on the teeth of the rachis, obtusish and pointed: glumes beardless, or interruptedly bearded. 4. 10—(wheat.)

AGROPYRON. Spikelets sessile on the teeth of the rachis, 3 to 9-flowered: glumes lanceolate, keeled: corol with the lower valve mucronate, or ending a subulate bristle. 4. 10.

SECALE. Calyx 2-valved, 2 or 3-flowered: spikelets sessile on the teeth of the rachis, with the terminal floret abortive: calyx 2-valved; glumes subulate, opposite, shorter than the florets: corol with the lower valve long-awned. 4. 10—(rye.)

ELYMUS. General calyx involucre-like, with its glumes in pairs, subulate: corol with its lower valve entire, mucronate, or with a short bristle at the tip: spikelets 2 or more at each joint of the rachis: 3 to 9-flowered. 4. 10—(lime-grass, wild rye) *S.*

MELICA. Calyx 2-valved, unequal, colored, obtuse, 2 to 4-flowered, and as long as the florets; one or more of the upper florets abortive and incomplete: corol unarmed, membranaceous: nectary connate: seed free. 4. 10—(melic-grass.) *S.*

ATHEROPOGON. Spikes in unilateral racemes: calyx 2-valved, membranaceous, 2-flowered; inferior valve bristle-form: perfect floret 2-valved; inferior valve 3-toothed, or 3-bristled; superior valve bifid: abortive floret pediceleld, 2-valved, 3-bristled. 4. 10—(hairy-beard.)

Southern.

SESLERIA. Calyx 2 to 5-flowered: corol 2-valved, toothed at the tip: stigmas sub-glandular: flowers often purplish; base of the spike bracted or involucred. 4. 10—(moor-grass.)

OXYDENIA. Spike panicled, filiform; spikelets 3 or 4-flowered, alternating on a one-sided rachis: general calyx permanent, 2-valvdd, acuminate-subulate, 1-nerved, longer than the florets; corol 2-valved, small, caducous, obtuse, with or without awns: seed roundish, naked, smooth, somewhat gibbous. 4. 10.

CHLORIS. Spikes digitate, one-sided: calyx 2-valved, 2 to 4-flowered; valves keeled. Flowers dissimilar, and the abortive florets pedicelled. 4. 10.

AEGILOPS. Calyx lateral, 2-valved, mostly 3-flowered; valves coriaceous, broad, with many rigid diverging awns: corol 2-valved, outer valve 2 or 3-awned: spikes with the intermediate ones barren, lateral ones perfect, sessile. 4. 10.

E. *Flowers polygamous.*

(In panicles.)

PANICUM. Calyx 2-valved, 2-flowered; the lower glume generally very small and differing in texture from the other: the lower floret abortive, 1 or 2-valved: the lower valve resembling the calyx, the upper one membranaceous: perfect floret with cartilaginous valves, unarmed. 4. 10—(cockfoot-grass, panic-grass.) *S.*

HIEROCHLOA. Calyx 2-valved, 3-flowered, with scarious glumes: lateral florets staminate, central ones perfect and diandrous, rarely triandrous. 4. 10.

HOLCUS. Calyx 2-flowered; with membranaceous, boat-form, mucronate glumes: panicle compact: lower florets perfect, sessile, unarmed; upper ones staminate or neutral, pedicelled, awned near the middle of the back. 4. 10.

(In spikes.)

PENNISETUM. SETARIA. Calyx 2-valved, 2-flowered; glumes unequal, herbaceous; sometimes with a second staminate or neutral floret: 1 or 2 valved, herbaceous: inflorescence a spike, with a 2 or many-bristled involucre. 4. 10—(bristled panic.)

DIGITARIA. Calyx 1 or 2-valved, 2-flowered; the outer valve very small or none; the inmost one of the length of the corol: corol 2-valved, oblong-ovate, awnless: style very long; spikes digitate, unilateral, linear: spikelets on short bifid pedicels, in pairs, lower floret abortive, 1-valved, herbaceous; upper floret perfect, with coriaceous valves. 4. 10—(finger-grass.) *S.*

ANDROPOGON. Spikelets in pairs, involucred; the lower one staminate or neutral on a bearded pedicel: calyx and corol often very minute or wanting: upper spikelets sessile, 1-flowered, perfect; glumes sub-coriaceous; corol 2-valved, shorter than the calyx, membranaceous, lower valve generally awned. 4. 10—(beard-grass.) *S.*

HORDEUM. Spikelets 3 at each joint of the rachis, 1 or 2-flowered, all perfect, or the lateral ones abortive: glume lateral, subulate: perfect flower with a 2-valved corol; lower valve ending in a bristle: seed coated. 4. 10—(barley.)

Southern.

MONOCERA. Flowers in 2 rows on one side of the rachis: calyx 3-valved, many-flowered; valves awned below the tip. Perfect flowers have the corol 2-valved, unequal; the outer valve awned below the tip. Neutral flowers have corols with 2 awnless valves. 4. 10.

ANISURIS. Perfect flowers mixed with the staminate, the calyx 1-flowered, valves 2, unequal; outer one coriaceous, roundish, emarginate on each side of the base: corol 2-valved, smaller, and included in the calyx. Staminate and neutral have the calyx uniform or regular. 4. 10.

LEPTURUS. Rachis articulated, filiform: articulations single-flowered: calyx growing to the rachis, 1 or 2-valved; valves simple or 2-parted. 4. 10.

ROTBOLLIA. Rachis fragile, articulated, cylindric, often filiform; articulations 2-flowered or more: calyx lance-ovate, flat, 1 or 2-valved: corol smaller, 2-valved. 4. 10.

PLEURAPHIS. Central spikelet perfect; calyx 1-flowered with wedge-obovate, 2-cleft, 5-bristled glumes: lateral spikelets staminate; calyx 2-flowered, with one valve bristled near the base. 4. 10.

* Stellaria, Anthoxadthum, Oryzopsis.

ORDER III. TRIGYNIA.

HOLOSTEUM. Calyx 5-leaved, colored within: corol with five 2-parted petals: capsule 1-celled, bursting at the summit. 22. 82.

MOLLUGO. Calyx 5-leaved, inferior, colored inside: corol 0: capsule 3-celled, 3-valved, many-seeded. 22. 82—(carpet-weed.) *S.*

Montia. Calyx 2—3-leaved: petals 5, sub-connate at the base, 3 a little smallest: stamens on the claws of the petals, mostly before the three smaller ones: styles short, reflexed; capsule 1-celled, 3-valved, 3-seeded. Scarcely distinguished from Claytonia. 54. 86.

Lecuea. Calyx 3-leaved: petals 3, linear: stigmas 3, plumose; capsule 3-celled, 3-valved, with 3 inner valvelets: seed 1. 22. 80—(pinweed.) *S.*

Proserpinaca. Calyx 3-parted, superior, permanent; corol 0: nut bony, 3-sided, 3-celled, crowned by the calyx. 15. 88—(mermaid weed.) *S.*

Southern.

Polycarpon. Calyx 5-leaved: petals 5, very short, emarginate, permanent: capsule ovate, 1-celled, 3-valved. 22. 30.

* Zanthoxylon, Stellaria, Eriocaulon, Queria or Anychia.

CLASS IV. TETRANDRIA.

Order I. Monogynia.

A. *Flowers superior.*

(1-petalled.)

Cephalanthus. Inflorescence in a head: general calyx none; proper calyx superior, minute, angular, 4-cleft: corol funnel-form: receptacle globular, hairy: capsules 2 to 4-partible: seed solitary, oblong. 48. 46—(button-bush.) *S.*

Dipsacus. Common calyx involucre-like, many-leaved: proper calyx 1-leaved, superior: receptacle chaffy: corol tubular, 4 cleft: seed 1, crowned with a wineglass-form egret: inflorescence an ovate head. 48. 56—(teasel.)

Galium. Calyx 4-toothed: corol flat, 4-cleft: fruit dry: seeds 2, roundish: (leaves stellate,) 47.57—(bedstraw.) *S.*

Spermacoce. Calyx 4-toothed: corol funnel-form, 4-cleft: capsule 2-celled: seeds 2, 2-toothed. 48. 57. *S.*

Diodia. Calyx 2-cleft: corol tubular, funnel-form, 4-cleft; capsule 2-celled. 1-seeded. 47. 57. *S.*

Hedyotis. Oldenlandia. Calyx 4-toothed or 4-parted: coral funnel form, 4-cleft, or 4-petalled: capsule 2-celled, many-seeded; receptacle adnate to the partition. 13. 57. *S.*

Asotis. Calyx an obovate tube 4-toothed: corol salver-form with a 4-lobed limb, throat sub-glabrous: stigma sub-2-lobed: capsule 1-celled, and 4 to 8-seeded, seeds ovate sub-angled. 47. 57.

Houstonia. Calyx half superior, 4-toothed or 4-parted: corol salver-form, 4-cleft: capsule 2-celled, many-seeded, opening tranversely. 47. 46—(venus pride.) *S.*

Mitchella. Calyx 4-toothed: corols 2 on each germ, tubular, limb 4-parted, spreading, villose inside: stamens scarcely exsert: berry double, 4-seeded: stigmas 4 or 4-cleft. 48. 57—(patridge berry, checker berry.) *S.*

Linnæa. Calyx double; that of the fruit 2-leaved, inferior: that of the flower 5-parted: corol bell-form, 5-lobed: stamens somewhat didynamous: stigma globose: berry 3-celled, dry, generally producing a perfect seed in but one cell. 48. 58—(twin flower.).

Exotic.

SCABIOSA. Common calyx many-leaved; proper one double, superior: receptacle chaffy or naked. (Flowers aggregate.) 47. 56—(scabious.)

Southern.

POLYPREMUM. Calyx 4-parted: corol 4-cleft, wheel-form, bearded at the orifice: stamens included: capsule compressed, 2-celled, many-seeded. 40. 46.

ALLIONIA. Common calyx oblong, simple, 3-flowered; proper calyx obsolete: corol irregular: receptacle naked. 48. 32.

RUBIA. Calyx 4-toothed: corol 4 or 5-cleft, bell-form: berries 2, one-seeded, (stamens 4-5; leaves stellate.) 47. 57—(madder.)

(4-petalled.)

CORNUS. Calyx 4-toothed: drupe with a 2-celled nut. Some species have a 4-leaved involucre. 45. 58—(dogwood, false box.) *S.*

LUDWIGIA. Calyx 4-parted, the divisions long, permanent: capsule 4-cornered, 4-celled, perforated at the top, many-seeded—(petals sometimes wanting.) 17. 88—(seed box.) *S.*

(Apetalous.)

ISNARDIA. Calyx bell-form, 4-parted or 4-cleft, superior: capsule 4-celled, 4-cornered, manny-seeded, surrounded by the calyx. 17. 86—(water purslane.)

Southern.

ELEAGNUS. Calyx 4-cleft, bell-form, coloured within; stamens alternating with the divisions of the calyx (corol?) anthers sub-sessile: style short; drupe dry, 1-seeded, marked with 8 furrows. 31. 24.

B. *Flowers inferior.*

(1-petalled.)

PLANTAGO. Calyx 4-cleft: corol 4-cleft, reflexed: capsule 2-celled, opening transversely: stamens exsert, very long. 54. 31—(plantain, ribwort.) *S.*

SANGUISORBA. Calyx 2-leaved: corol 4-cleft, wheel-form, adhering to the germ so as to appear as if superior; capsule 4-sided. 54. 92—(burnet saxifrage.) *S.*

CENTAURELLA. BARTONIA. Calyx 4-parted, close-pressed, permanent: corol 4-cleft or 4-parted, bell-form, permanent: stigma thick, glandulous, sub-bifid: capsule 1-celled, 2-valved, many-seeded. 20. 46—(screw-stem.) I regret that I am compelled by superior authority to substitute Centaurella for Bartonia; contrary to all rules for generic names.

EXACUM. Calyx deeply 4-parted: corol 4-cleft: tube globose; capsule 2-furrowed, 2-celled, many-seeded, opening at the top; cells 2-seeded. 47. 46.

SWERTIA. Calyx flat, 4 or 5-parted: corol 4-parted, wheel-form, with nectariferous pores at the base of the divisions: germ tapering to a point: style short, terminating in 2 stigmas: capsule 1-celled, 2-valved, accuminate. 47. 46—(false gentian.)

FRASERA. Calyx deeply 4-parted: corol 4-parted, spreading; seg-

ments with bearded glands in the middle: capsule compressed, sub-margined, 1-celled, 2-valved: seeds few, imbricated, oval, with a membranaceous margin. 47. 46—(pyramid flower.) *S.*

Southern.

LYCIUM. Corol tubular, having the throat closed by the beards of the filaments: stamens often 5; berry 2-celled, many-seeded: 28. 38—(matrimony.)

CENTUNCULUS. Calyx 4-cleft: corol 4-lobed, tubular, permanent, border spreading: stamens short, naked: capsule 1-celled, dividing into 2 hemispheres, many-seeded. 20. 34.

CALLIOARPA. Calyx 4-cleft: corol tubular, border 4-cleft: stamens exsert: berry 4-seeded. 46. 41.

CENTAURELLA. Calyx 4-parted, close-pressed: corol somewhat bell-form, 4-parted; segments sub-erect: stigmas thick, glandulous, sub-bifid; capsule 1-celled, 2-valved, many-seeded, surrounded by the permanent calyx and corol. 20. 34.

(4-petalled.)

AMMANNIA. Calyx bell-tubular, plaited, 8-toothed; petals 4, or none, on the calyx: capsule 4-celled, many-seeded—(sometimes 2-celled and 8-stamened.) 17. 91—(tooth-cup.) *S.*

PTELEA. Calyx 4 parted: petals 4, spreading: stigmas 2: samara compressed, orbicular, 2-celled, 2-seeded. 43. 94. *S.*

Southern.

KRAMERIA. Calyx none: corol 4 or 5-petalled: nectary 4-leaved, two-shaped: anthers perforated: drupe prickly. 33. 93.

(Apetalous.

RIVINA. Calyx 4-parted, permanent; berry 1-seeded; seeds lentiform, scabrous: stamens 8, 4, 12. 12. 29.

ALCHEMILLA. Calyx 8-cleft; segments spreading, alternately smaller: style lateral from the base of the germ: fruit surrounded by the calyx. 35. 92—(lady's mantle.)

ICTODES. SYMPLOCARPUS. POTHOS. General calyx a spathe; spadix simple, covered with flowers: perianth corol-like, deeply 4-parted, permanent, becoming thick and spongy: style pyramid-form, 4-sided; stigma simple, minute: berries globose, 2-seeded, inclosed in the spongy spadix-receptacle. 2. 7—(skunk-cabbage.)

Southern.

CAMPHOROSMA. Calyx pitcher-form, 4-parted, segments alternately larger: stamens exsert: style 2-cleft: capsule 1-seeded, covered by the calyx. 12. 29.

*Convallaria, Cardamine, Prinos, Calymenia, Euonymus.

ORDER II. DIGYNIA.

HAMAMELIS. Involucre 3-leaved: perianth 4-leaved or 4-cleft: petals 4, very long, linear: nut 2-celled, 2-horned. 54. 78—(witch hazel.) Flowers in autumn, and perfects its seed the following spring. *S.* 54. 78.

Southern.

APHANES. Calyx 2-cleft, alternate; segments minute: petals none: stamens minute: styles 2: seeds 2, covered by the converging calyx, one of them often abortive. Stamens 1, 2, and 4. 35. 92.

*Sanguisorba, Cuscuta, Swertia, Oldenlandia, Gentiana, Morus, Juglans, Thuja, Galium.

ORDER IV. TETRAGYNIA.

ILEX. Calyx minute, 4 or 5-toothed: corol 4-parted, wheel-form: style 0: stigmas 4: berry 4-celled, cells 1-seeded. 43. 95—(holly.)

NEMOPANTHES, R. Flowers abortively dioecious or polygamous: calyx scarcely conspicuous: petals 5, distinct, linear-oblong, caducous: germs hemispheric, covered with a viscous juice: style none: stigmas 4: berry 4-celled, 1-seeded. Professor Dewey defines this genus—Calyx none, or ideally conspicuous: petals 4, lanceolate, sub-acute: stigmas sessile: pericarp 4-celled, 1-seeded: stamens 3 to 5; stigmas 3 to 5. This description was written long before that of R. 43. 95.

SAGINA. Calyx 4-leaved: petals 4, often caducous: capsules 4-celled, 4-valved, many-seeded. 22. 82—(pearl-wort.) *S.*

TILLAEA. Calyx 3 or 4-parted: petals 3 or 4, equal: capsules 3 or 4, two or many-seeded. Sometimes there are 4 barren stamens. 13. 86—(pigmy-weed.)

POTAMOGETON. Calyx (or green corol) 4-leaved: petals 0: style 0: anthers sessile, alternating with the divisions: nuts 4, 1-seeded, sessile: seeds 4. 15. 7—(pond-weed.) *S.*

RUPPIA. Calyx 0: corol 0: seeds 4, pedicelled. 15. 7.

Southern.

MYRINDA. Calyx small, 4-parted: corol 4-petalled or deeply 4-parted; stigmas 2 or 4: drupe globose, 1-seeded. 43. 95.

*Proserpinaca, Myriophyllum.

CLASS V. PENTANDRIA.

ORDER I. MONOGYNIA.

A. Flowers 1-petalled, inferior; seeds naked in the bottom of the calyx.

Rough-leaved plants.

PULMONARIA. Calyx prismatic, 5-angled: corol funnel-form, with an open throat: stigma emarginate: seeds roundish, obtuse, not perforated at the base. (Whole plant smooth in this country; though rough-leaved in Europe.) 41. 43—(lung-wort.) *S.*

LITHOSPERMUM. Calyx 5-parted, with acute keeled divisions: corol funnel-form, with an open throat, border 5-lobed: stigma 2-cleft: seeds ovate, pointed, stony, not perforated: stamens and pistils inclosed in the tube of the corol. 41. 43—(stone-seed or gromwell.) *S.*

ONOSMODIUM. Calyx deeply 5-parted, segments linear: corol oblong, somewhat bell-form, with the acute divisions converging, the upper part of the corol being ventricose and half 5-cleft, throat open; anthers sessile, enclosed: styles exsert, seeds not perforated at the base. (Spikes revolute.) 41. 43—(false gromwell.) *S.*

ECHIUM. Calyx 5-parted, segments subulate, erect: corol bell-form,

obliquely and unequally 5-lobed; tube short; throat naked; stigma cleft: seeds tubercled, not perforated at the base. 41 43—(viper's bugloss.)

Myosotis. Calyx half 5-cleft or 5-cleft: corol salver-form, curved, 5-cleft, vaulted, the lobes slightly emarginate; throat closed with 5 convex converging scales: seeds smooth or echinate. 41. 43—(scorpion-grass.) *S.*

Lycopsis. Calyx 5-cleft: corol funnel-form; throat closed with ovate converging scales: seeds perforated at the base. 41. 43.

Batschia. Calyx about 5-cleft: corol salver-farm, with a straight tube longer than the calyx; having a bearded ring within at the base; throat naked, or partly closed, with rounded divisions: seeds hard and shining. 41. 43—(false bugloss.) *S.*

Cynoglossum. Calyx 5-parted: corol short, funnel-form, vaulted; throat closed by 5 converging convex processes: seeds, depressed, affixed laterally to the style. 41. 43—(hound-tongue.) *S.*

Rochelia. Calyx 5-parted: corol salver-form, throat closed with converging scales: seeds prickly, compressed, affixed laterally to the style. 41. 43.

Exotic.

Borago. Corol wheel-form; the throat closed with rays. 41. 43—(borage.)

Anchusa. Calyx 5-parted: corol funnel-form, vaulted; thoat closed: seeds marked at the base, and their surface generally veined. 41. 43—(bugloss.)

Symphytum. Limb, or upper part of the corol, tubular-swelling; the throat closed with the subulate rays. 41. 43—(comfrey.)

Southern.

Heliotropium. Calyx tubular, 5-toothed: corol salver-form, 5-cleft, with teeth or folds between the divisions; throat open. (Spikes recurved, involute.) 41. 43—(turnsol.)

B. *Flowers* 1-*petalled, inferior; seeds covered.*

(Capsule 1-*celled.)*

Anagallis. Calyx 5-parted: corol wheel-form, deeply 5-lobed: capsule opening transversely, globose, many-seeded: stamens hairy. 20. 35—(scarlet pimpernel.) *S.*

Lysimachia. Calyx 5-cleft or 5-parted: corol wheel-form, 5 cleft: capsule 1-celled; globular, 5 or 10-valved, mucronate: stigma obtuse: (In some species the filaments are united at the base.) 20. 35—(loose-strife.) *S.*

Primula. Umbellets involucred: calyx tubular, 5-toothed: corol salver-form, 5-lobed; tube cylindric; throat open; divisions of corol emarginate: capsule 1-celled with a 10-cleft mouth: stigma globular. 21. 35—(primrose-cowslip.)

Dodecatheon. Calyx 5-cleft: corol wheel-form, 5-parted, reflexed: capsule oblong, 1-celled, opening at the apex: stamens on the inside of the tube short; anthers converging: stigma obtuse. 20. 35—(false-cowslip.)

Menyanthes. Calyx 5-parted: corol hairy, funnel-form, 5-lobed, equal and spreading: capsule ovate, 1-celled, 2-valved, with the seeds

attached to the valves: stigma 2-cleft, capitate. 47. 46—(buck bean.)

Villarsia. Capsule 1-celled, 1 or 2-valved, many seeded: corol wheel-form, 5-lobed; divisions bearded at the base; margin inflexed, having 5 glandular nectaries, alternating with the stamens: stigma 2-lobed. 47. 46—(spur-stem, heart water-shield.) *S.*

Hottonia. Calyx 5-parted: corol salver-form, 5-lobed: stamens on the tube of the corol: stigma globular: capsule 1-celled, globose, acuminate. 21. 35—(feather-leaf.) *S.*

Samolus. Caylx 5-cleft, half superior, permanent: corol salver-form, 5-lobed, with 5 intermediate scales fencing up the stamens between them: capsule 1-celled, 5-toothed, many-seeded. 21. 35.—(brookweed.) *S.*

Sabbatia. Calyx 5 to 12-parted: corol wheel-form, 5 to 12-parted: stigmas 2, spiral or coiled: anthers becoming revolute: capsule 2-valved, many-seeded. 47. 46—(centaury.) *S.*

Hydrophyllum. Calyx 5-parted: corol bell-form, 5-cleft, with 5 margined, longitudinal, honey-bearing grooves inside: capsule globose, 2-valved: stamens exsert: filaments bearded in the middle: stigma 2-cleft. 41. 43—(water-leaf, burr-flower.) *S.*

Nemophila. Germ 1-celled, with two wall-like partitions, each bearing two distinct germs or capsules; capsule 1-celled, with fleshy masses fixed to a longitudinal axis, bearing the seeds on their inner surface 41. 43.

Southern.

Ellisia. Calyx deeply 5-parted: corol smaller, funnel-form, 5-cleft, naked within: stamens not exsert; filaments smooth; anthers roundish: stigma 2-cleft: capsule 2-celled, 2-valved, 2-seeded; seeds punctate. Capsule on the spreading calyx. 41. 43.

Androsace. Flowers in an involucred umbel: calyx: 5-cleft, permanent: corol salver-form, 5-lobed, tube ovate, orifices glandular: capsule 1-celled, globe-ovate, 5-valved, many-seeded. 20. 35.

(Capsule 2-celled, rarely 3-celled.)

Phacelia. Calyx 5-parted: corol somewhat bell-form, 3-cleft, with 5 margined, longitudinal, honey-bearing grooves inside: styles filiform; stigmas 2: stamens exsert: capsule 2-celled, 2-valved, 4-seeded; with partitions attached to the middle of the valves. 28. 43. *S.*

Spigelia. Calyx 5-parted: corol funnel-form; border equally 5-cleft: anthers converging: capsule twinned, 2-celled, 4-valved, many seeded. 47. 46. *S.*

Verbascum. Calyx 5-parted: corol wheel-form, 5-lobed, somewhat irregular: stamens declined, hairy: capsules 2-celled, 2-valved; valves inflexed when ripened, many-seeded. 28. 38—(mullein.) *S.*

Convolvulus. Calyx 5-parted, with or without 2 bracts: corol funnel-form, plaited: stigma 2-cleft or double: cells of the capsule 2 or 3; each 1 or 2-seeded. 29. 44—(bind-weed.) *S*

Ipomea. Caylx 5-cleft, naked: corol funnel or bell-form, with 5-folds: stigma globe-headed, papillose: capsule 2 or 3-celled, many-seeded. 29. 44—(cypress vine, morning glory.) *S.*

Exotic.

Hyoscyamus. Caylx tubular, 5-cleft: corol funnel-form, 5-lobed, ob-

tuse, irregular: stamens inclined: capsule 2-celled, covered with a lid. 28. 38—(henbane.)

Southern.

NICOTIANA. Calyx urceolate, sub-tubular, 5-cleft: corol funnel-form, 5-cleft, limb plaited: stigma notched, capitate: stamens inclined: capsules 2-celled, 2 to 4-valved. 28. 38—(tobacco.)

OPHIORHIZA. Calyx 5-cleft: corol 5-cleft, funnel-form: germ 2-cleft: stigmas 2: capsule mitre-form, 2-lobed, 2-celled, many-seeded. 47. 46.

BUNKLIA. Calyx 5-parted: corol salver-form, deeply 5-parted: nectary (inner corol) 5-leaved: drupe 1-seeded. 43. 48.

LISIANTHUS. Corol tubular, ventricose; divisions recurved: calyx bell-form, keeled: stigma in a 2-lobed head: capsule 2-celled, 2-furrowed, 2-valved: seeds numerous, sub-imbricate, surrounded with a very small membranaceous margin. 47. 46.

(Capsule 3 to 5-celled.)

PHLOX. Calyx prismatic, 5-cleft or 5 parted; segments converging: corol salver-form, 5-lobed, with a tube somewhat curved: filaments unequal in length, attached to the inside of the tube of the corol: stigmas 3-cleft: cells 1-seeded, seeds oblong, concave. 20. 45—(lichnedia.) *S.*

POLEMONIUM. Calyx bell-form, half 5-cleft: corol bell-wheel form, 4 or 5-lobed, erect: stamens bearded at the base, on 5 valves, closing the bottom of the tube: stigma 3 cleft: capsule roundish, 3-celled, many-seeded; valves membrano-crustaceous: seeds oblong, sub-triangular. 29. 45—(Greek valerian, false Jacob's ladder.) *S.*

DIAPENSIA. Calyx deeply 5-parted, at the base, imbricated with 3 leafets: corol salver-form: limb flat, 5-cleft: stamens compressed, crowning the tube of the corol; stigmas 3: capsule 3-celled, 3-valved, many-seeded. 21 44—(mountain box.) *S.*

DATURA. Calyx tubular, angled, caducous, with a permanent orbicular base: corol funnel-form, plaited: capsule 4-valved, 2-celled, and each cell half divided: generally thorny. 28. 41—(thorn-apple.) *S.*

AZALEA. Calyx 5-parted; corol tubular, half 5-cleft, somewhat oblique; stamens on the receptacle, declined; stigma declined, obtuse, usually ending with 5 short papillæ: capsule 5-celled, 5-valved, opening at the top. 18. 50—(wild honeysuckle.) *S.*

Exotic.

VINCA. Corol salver-form, twisted, border 5-cleft, with divisions oblique, throat 5-angled: seed naked, oblong: capsule follicle-like, erect, narrow. 30. 47.

Southern.

COLLOMIA. Calyx wineglass-form, large, 5-cleft, acute: corol funnel-form with 5 short oval-oblong lobes: tube straight, long, slender: capsule 3-cornered, 3-celled, 3-seeded, and 3 obcordate valves; seed oblong, angular, with a mucilaginous covering. 29. 45.

CANTUA. IPOMŒIA. Calyx 3 to 5-cleft: corol funnel-form: stigma 3-cleft: capsule superior, 3-celled, 3-valved, many-seeded; seeds winged. 29. 45.

(Seed in a berry.)

PHYSALIS. Calyx 5-toothed: corol bell or wheel-form; tube with 5

concave impressions: anthers converging: berries 2-celled, contained in an inflated calyx: seeds numerous. 28. 38—(winter cherry.) *S.*

SOLANUM. Calyx 5 to 10-parted, permanent: corol bell or wheel-form, 5-lobed, plaited: anthers thickened, partly united, with two pores at the top; berry containing many seeds, 2 to 6-celled. 28. 38—(potatoe, nightshade, bitter-sweet.) *S.*

Exotic.

ATROPA. Corol bell-form: stamens distant: berry globular, 2-celled, sitting on the calyx. 28. 38—(deadly nightshade.)

CAPSICUM. Corol wheel-form: berry juiceless, inflated: anthers converging: calyx angular. 28. 38—(red pepper.)

Southern.

ANDROCERA. (Solanum.) Calyx inflated, 5-cleft, caducous: corol sub-ringent, wheel-form, 5-cleft: stamens unconnected, unequal, declined, one larger and horn-form; anther with 2 terminal pores: style simple, declined; stigma not distinct: berry dry; seed without margins, rugose. 28. 38.

C. *Flowers* 1-*petalled, superior.*

(Seeds in a capsule.)

CAMPANULA. Calyx mostly 5-cleft; corol bell-form, or wheel-form, closed at the bottom by valves bearing the flattened stamens: stigma 3 to 5-cleft: capsules 3 to 5-celled, opening by lateral pores. 29. 52—(bell-flower.) *S.*

SPECULARIA. Calyx 5-lobed, tube elongated prismatic or long-obconic: corol wheel-form, 5-lobed: filaments membranaceous, pilose, shorter than the anthers: style inclosed, pilose: stigmas 3, filiform: capsule long-prismatic, 3-celled, 3-valved. 29. 52.

CLINTONIA. Calyx superior, 5-leaved, sub-equal: corol 2-lippid, lower lip wedge-form 3-lobed, upper one erect 2-parted; stamens in the tube, connate incurved; anthers connate, two bristle-bearing at the apex: germ silique-form, triangular, contorted, 1-celled: capsule dry, many-seeded. 29. 52.

LOBELIA. Calyx 5-cleft: corol irregular, often irregularly slitted: anthers cohering, and somewhat curved: stigma 2-lobed: capsule 2 or 3-celled. 29. 52—(cardinal flower, wild tobacco.) *S.*

DIERVILLA. Calyx oblong, 5-cleft, with 2 bracts: corol 5-cleft, twice as long as the calyx, funnel-form: border 5-cleft, spreading: stigma capitate: capsule oblong, 4-celled, naked, many-seeded. 48. 58—(bush honeysuckle.) *S.*

Southern.

PINCKNEYA. Calyx 5-parted, 1 or 2 of the divisions large, bract-like: corol long, tubular; border re-curved: stamens exsert: capsule roundish, 2 or 4-valved with contrary partitions: seed winged. 47. 57.

CHIOCOCCA. Calyx 5-toothed: corol funnel-form, equal: berry compressed, twinned, 2-seeded: seed oblong, compressed. 47. 57.

PSYCHOTRIA. Tube of the calyx ovate, crowned; limb short 5-lobed, 5-toothed or sub-entire: corol funnel-form, short, 5-cleft; throat bearded: stigma 2-cleft: berry drupe-like.

(Seeds in a berry.)

LONICERA. CAPRIFOLIUM. Calyx 5-toothed: corol tubular, long cleft, unequal: stamens exsert: stigmas globose: berry 2 or 3-celled, distinct; seeds many. 48. 58—(trumpet honeysuckle.) *S.*

XYLOSTEUM. Calyx 5-toothed with 2 connate bracts: corol tubular; border 5-parted, nearly equal: berries in pairs, united at their bases, or combined in one; 2-celled. 48. 58—(fly honeysuckle, twin-berry.)

SYMPHORICARPUS. Calyx globose tube; limb small 4 or 5-toothed: corol funnel-form sub-equal 4 or 5-lobed: stamens a little exsert: stigma half-globose: germ adnate, 4-celled; berry crowned with the calyx. 48. 58.

SYMPHORIA. Calyx small, 4-toothed, 2-bracted at the base: corol tubular, short, 5-cleft, sub-equal: stigma globose; berry ovate, small, crowned with the permanent calyx, 4-celled, 4-seeded; (sometimes two of the cells are abortive.) 48. 58—*S.*

TRIOSTEUM. Calyx permanent, of the length of the corol, 5-cleft, with linear divisions: corol tubular, 5-lobed, sub-equal, gibbous at the base: stigma capitate, sub-5-lobed: berry 3-celled, 3-seeded. 48. 53—(feverwort, horse ginseng.) *S.*

Exotic.

MIRABILIS. Corol funnel-form, coarctate (compressed or narrowed) below: calyx inferior: germ between the calyx and corol: stigma globular. 54. 32—(four o'clock.)

D. *Flowers 5-petalled, inferior.*

(Seed in a capsule.)

ITEA. Calyx 5-cleft, minute, bearing the 4 long linear reflexed petals; stigma capitate, 2-lobed: capsule 2-celled, 2-valved, many-seeded; the valves bearing the seeds, and having inflexed margins. 18. 84. *S.*

IMPATIENS. Calyx 2-leaved, deciduous: corrol irregular, spurred: anthers cohering at the top: capsule 5-valved, bursting elastically when ripe. 24. 73—(touch-me-not, jewel weed.) *S.*

VIOLA. Calyx 5-leaved or deeply 5-cleft: corol irregular, with a horn behind; (sometimes the horn is wanting or a mere prominence) anthers attached by a membranous tip, or slightly cohering: capsule 1-celled, 3-valved. 29. 80—(violet.) *S.*

IONIDIUM. IONIA. (from Viola.) Calyx 5-leaved, with bases extended: corol somewhat 2-lipped, not spurred: stigma simple: capsule 1-celled, 3-valved; seeds on the middle valve. 29. 80.

CLAYTONIA. Calyx 2-leaved or 2-parted, the leaves valve-like; corol 5-petalled, emarginate: stigma 3-cleft; capsule 1-celled, 3 valved, 3 to 5-seeded. 13. 86—(spring beauty.) *S.*

CRANOTHUS. Petals scale-like, vaulted: claws long, standing in the 5-cleft, cup-form calyx; stigmas 3; berry or capsule dry, 3-grained, 3-celled, 3-seeded, 3-parted, opening on the inner side. 43. 95—(New Jersey tea.) *S.*

EUONYMUS. Calyx 5-parted or 5-cleft, flat: corol flat, inserted on the outer margin of a glandular disk: capsule 5-angled, 5-celled, 5-valved, colored; cells 2-lobed: seeds calyptred or arilled. 43. 95—(spindle tree.) *S.*

CELASTRUS. Calyx 5-lobed, flat: corol spreading: capsule obtusely

3-angled, 3-celled, berry-like; valves bearing the partitions on their centres; cells 1 or 2-seeded: stamens standing around a glandular 5-toothed disk: style thick: stigma 3-cleft: seeds calyptred or arilled. 43. 95.—(staff tree, false bittersweet.)

Exotic.

Gompherena. Calyx 5-leafed, colored; exterior one 3-leafed; 2 leafets converging, keeled: petals 5, villose, (or rather no corol;) nectary cylindric, 5-toothed: capsule opening transversely, 1-seeded: style semibifid. 54. 30—(bachelor's buttons.)

Southern.

Cyrilla. Calyx minute, sub-turbinate, 5-parted: petals 5, stellate: stigmas 2 or 3: capsule 2-celled, 2-seeded, not opening; seed ovate, attached to the summit of a collumella by a filament. 40. 51.

Galax. Erythrorhiza. Solandra. Calyx 5-parted, permanent: corol twice as long as the calyx, 5-petalled, affixed to the base of the stamens; anther-bearing tube 10-cleft, the 5 shorter segments bearing the anthers: stigma 3-lobed: capsule 3-celled, 3-valved; seeds many, affixed to the columella. 28. 83.

Zizyphus. Calyx 5-cleft: petals 5, resembling scales, inserted into the glandular disk of the calyx: styles 2: drupe 2-celled, 1 or 2-seeded; one cell often empty. 43. 95.

(Seed in a berry.)

Rhamnus. Calyx cup-form, 4 or 5-cleft: corol consists of scales fenceing in or opposite to, the stamens, and inserted on the calyx, (sometimes wanting:) stigma 2 or 4-cleft; berry 3 or 4-seeded, (sometimes polygamous or dicœcious.) 43. 95—(buckthorn, dwarf alder.) *S.*

Vitis. Calyx 5-toothed, minute: petals cohering at the tip, hood-like, withering: styles 0: stigma obtuse, capitate: berry 5-seeded, globular, often dicœcious: seeds sub-cordate. 46. 72—(grape vine.) *S.*

Ampelopsis. Cissus. Calyx minute, 4 or 5-toothed: petals reflexed, spreading, 4 or 5, unconnected above, calyx-like, caducous: germs surrounded with a glandular disk; berry 2-celled, 2 to 4-seeded. 46. 72—(false grape, creeper.) *S.*

E. *Flowers 5-petalled, superior.*

Ribes. Calyx bell-form, 5-cleft, (sometimes flat: corol and stamens inserted on the calyx: style 2-cleft: berry many-seeded. 36. 85—(currant, gooseberry.) *S.*

Exotic.

Hedera. Petals oblong-berry 5-seeded, surrounded by the calyx: style simple. 46. 58—(European ivy.)

F. *Corols wanting.*

Thesium. Comandra. Calyx superior, half 5-cleft, with petal-like edging attached to its margin: anthers adhering to the edging by means of filamentous tufts: nut or capsule 1-seeded, covered with the permanent calyx. 31. 25—(false toad-flax.) *S.*

Queria. Paronychia. Anychia. Calyx 5-leafed or 5-parted, segments oblong, inferior, converging, tough, bag-like at the tip: capsule

1-celled: seed 1: stigmas sub-capitate: the capsule is bladder-like, and the seed somewhat reniform. Filaments 3 to 5. 22. 30—(fork-chickweed.) *S.*

GLAUX. Calyx inferior, bell-form, 5-lobed, coloured: capsule globose, acuminate, 1-celled, 5-valved, 5-seeded, surrounded by the calyx: receptacle rounded and punctured. 17. 35—(sea milkwort.)

PETALANTHERA. Calyx superior 10-parted: anthers arrow-form, inserted under the apex of petal-like filaments: style bears a sub-2-lobed stigma: capsule cylindrical, 1-celled, 1-seeded. 15. 88.

* Queria, Prinos, Polygonum, Ledum, Gentiana, Cassia, Passiflora, Lycium.

ORDER II. DIGYNIA.

A. *Corol 1-petalled, inferior.*

[Plants with *follicles* are removed to class *gynandria*, order *petandria*.]

GENTIANA. Calyx 4 or 5-cleft; corol with a tubular base, bell-form, without pores, 4 or 5-cleft: stigmas 2, sub-sessile: capsule 1-celled, oblong: columellas 2, longitudinal: stamens but 4, when the divisions of corol are 4. 47. 46—(gentian.)

CUSCUTA. Calyx 4 or 5-cleft: corol 4 or 5-cleft, sub-campanulate, withering: capsule 2-celled, dividing transversely at the base; seeds binate. 29. 44—(dodder.)

Southern.

GELSEMINUM. Calyx 5-leafed, very small: corol funnel-form, border spreading, 5-lobed, nearly equal: capsule compressed, flat, 2-partible, 2-celled: seeds flat, attached to the margins of the valves. 40. 47.

HYDROLEA. Calyx 5-parted: corol wheel-form or bell-form: anthers cordate, and their filaments cordate at the base: styles long, diverging: stigmas head-peltate: capsule 2-celled, 2-valved. 29. 44.

DICHONDRA. Calyx 5-parted; segments spatulate: corol short, bell-form, 5-parted: stigma head-peltate: capsule sub-compressed, twinned, 2-celled, 1-seeded: seeds globose. 29. 44.

EVOLVULUS. Calyx 5-parted, corol bell-wheel-form, with sub-emarginate lobes: styles 2, deeply 2-cleft, with diverging capillary divisions: stigma simple: capsule 2-celled, 4-valved, 2 to 4-seeded. 29. 44.

B. *Corol 5-petalled.*

DRUMMONDIA. Calyx obconic tubular adnate to the germ, the limb 5-cleft into triangular lobes, valve-like and at length reflexed: petals 5, pinnatifid, alternating with the lobes of the calyx: stigmas 2, spreading, 2-lobed: capsule 1-celled, 2-valved at the apex, opening long before the seed is ripe. 13. 84.

HEUCHERA. Calyx inferior, 5-cleft: corol on the calyx: petals small: capsule 2-beaked, 2-celled, many-seeded. 13. 84—(alum-root.) *S.*

PANAX. Polygamus. Umbelled. Involucre many-leafed: calyx 5-toothed in the perfect flower, superior: berry heart form, 2 or 3-seeded: calyx, in the staminate flower, entire. 46. 59—(ginseng.)

C. *Corol wanting.*

ATRIPLEX. Polygamous. Calyx 5-leafed, or 5-parted, inferior; style 2-parted: seed 1, vertical; fruit depressed. Pistillate flowers are inter-

mixed, in which the calyx is 2-leaved or 2-parted. 12. 29—(orache.) *S.*

Chenopodium. Calyx 5-parted, obtusely 5-angled, inferior: style deeply 2 cleft: seed 1, lens-like, horizontal, invested by the calyx. 12. 29—(pigweed, oak of Jerusalem.) *S.*

Salsola. Calyx 5-parted, with a capsular base: style 2-cleft: capsule 1-celled, with a spiral seed. The capsule is formed of the permanent calyx. 12. 29—(saltwort.) *S.*

Ulmus. Calyx bell-form, withering; border 4 to 5-cleft: seed 1, enclosed in a flat membranaceous samara. (Stamens vary from 4 to 8.) 53. 99—(elm.) *S.*

Celtis. Polygamous. Perfect flowers have the calyx 5-parted: styles thickish, spreading: drupe 1-seeded: staminate flowers beneath the perfect ones, with 6-parted calyxes: stamens often 6. 53. 99—(nettle-tree.) *S.*

Exotic.

Beta. Calyx 5-leaved: seed kidney-form within the fleshy substance of the base of the calyx. 12. 29—(beet.)

Southern.

Kochia. Calyx inferior, bell-form, 5-cleft, forming a permanent band around the fruit, somewhat resembling 5 petals: corol none: styles short, stigmas 2 or 3, long simple: seed incurved. 12. 29.

Planera. Polygamous. Calyx membranaceous, sub-campanulate, 4 or 5-cleft: corol none: stigmas 2, oblong, glandular, recurved: capsule (nut) sub-globose, membranaceous, 1-celled, not opening, smooth or scaly, 1-seeded, not winged. 53. 99.

D. Plants which bear flowers in Umbels; *corols superior and 5-petalled: seeds two.*

(Seeds with 3 ribs, nearly equal.)

Hydrocotyle. Crantzia. Erigenia. Seeds 3-ribbed, flat; dorsal rib sometimes obsolete; joining sides flat, linear: germ sub-orbicular or reniform, compressed laterally; styles short: stigmas capitate: perianth none: petals entire, spreading: involucres various. 45. 60—(pennywort.) *S.*

Erigena. Calyx with the margin obsolete; petals equal entire, obovate, expanded: style permanent, subulate, very long: fruit oval somewhat compressed: the half-fruit gibbously convex, 3-ribbed: joining edges narrow, flat, not edged with a margin. 45. 60.

Œnanthe. Seeds 3 ribbed, (rarely 5-ribbed;) styles permanent: germ oblong-ovate, corticate, solid; apex denticulate: perianth slenderly 5-toothed: petals of the disk florets of the umbel cordate-inflexed, sub-equal; those of the ray-florets large and deformed: general involucre mostly wanting. 45. 60—(water dropwort.)

Exotic.

Carum. Seeds oblong-ovate, striate: petals carinate, emarginate, inflexed: involucre about 1-leaved. 45. 60.—(caraway.)

(Seeds prickly or hispid.)

Sanicula. Seeds hispid with hooked prickles: calyx 5-parted, per

manent: umbel sub-simple, capitate: involucre few-flowered. 45. 60—(sanicle.) *S.*

ERYNGIUM. Fruit oval-oblong, with chaff-like scales, often hispid: calyx 5-parted, permanent: petals oblong, inflexed at the apex and adnate at the base: flowers sessile, capitate, intermixed with chaff: involucre many-leaved, sub-spinous. 45. 60—(sea holly.) *S.*

DAUCUS. Seeds striate on their joining sides; outer sides convex, having hispid ribs: involucre pinnatifid: flowers sub-radiated, abortive in in the disk. 45. 60—(carrot.) *S.*

URASPERMUM. SCANDIX. MYRRHIS. CHAEROPHYLLUM. Seeds sub-linear, solid, acute-angled, not striate; ribs 5, acute; angles a little furrowed, hispid; the joining sides furrowed, and attached to a 2-cleft columella-like receptacle: style subulate, permanent, rendering the seed caudate: involucre none or few-leaved. Fruit stiped, oblanceolate, polished, part of it hispid. 45. 60—(sweet cicely.) *S.*

(Seeds with 5 ribs, nearly equal, or none.)

CICUTA. Seeds gibbous-convex: ribs 5, obtuse, converging, with intervening tubercular grooves and prominences; joining sides flat: germ sub-globose, corticate, compressed laterally: calyx obsolete, 5-toothed: petals cordate-inflexed: partial involucres 5 or 6-leaved, or wanting. 45. 60—(water hemlock.) *S.*

CONIUM. Seeds 5-ribbed: ribs at first crenate with flat intervals between them: germ ovate, gibbous; perianth entire: petals unequal, cordate, inflexed: general involucre about 3 to 5-leaved; partial ones mostly 3-leaved, unilateral. 45. 60—(poison hemlock.)

EULOPHUS. Calyx 5-toothed at the margin, deciduous: fruit subcontracted at the side, ribs somewhat prominent; joining edges bearing 4 similar marginal wings: seed crescent-like, plant glabrous; umbel 10-rayed.

ZIZIA. Margin of the calyx obsolete or very short-5-toothed: petals oval, tapering into a long point: fruit contracted from the side, roundish or oval; seed terete-convex, a little flattish before. Flowers yellow. 45. 60.

In the Umbelliferne exotics are not designated.

APIUM. Seeds convex externally; ribs 5, small, a little prominent: germ sub-globose: perianth entire; petals equal, roundish, inflexed at the apex; involucre 1 to 3-leaved or wanting. 45. 60—(celery, parsley.)

HELOSCIADIUM. Calyx with a margin 5-toothed or obsolete: petals ovate, entire: styles short: fruit compressed at the side, ovate or oblong, with lateral margins; seed gibbosely or teretely convex, flattish before. Flowers white. 45. 60.

DISCOPLEURA. Calyx with 5 subulate permanent teeth; petals ovate, entire, folded a little at the apex: fruit ovate, often paired; ribs always five; dorsal 3, filiform, exsert, sub-acute; 2 laterals with a thick accessory margin; seed teretish. 45. 60.

LEPTOCAULIS. Calyx with the margin obsolete: petals ovate, entire: style short, permanent: fruit compressed at the side, ovate; seed convex outside, flattish: fruit covering bifid at the apex: stem terete, and leaves many-cleft. 45. 60.

SISON. AMMI. Seeds 5-ribbed, ovate, solid; intervals convex; sides

contracted: general involucre wanting, and sometimes the partial also. 45. 60—(bishop weed.) *S.*

CRYPTOTAENIA. Calyx with the margin obsolete: petals obovate subentire narrowing into an inflexed divisions: fruit contracted at the side, linear-oblong with a short slender foot-stem and crowned with a straight style; and having many edging fillets, concealed or nearly so; fruit covering bifid at the apex. Plant glabrous: leaves 3-cleft, segments curve-toothed. 45. 60.

SIUM. Seeds ovate, gibbous-convex, 5-ribbed with 4 intervening grooves: germ oblong-ovate, glabrous, compressed laterally: perianth obsolete: petals cordate, inflexed; involucres many-leaved, entire. 45. 60—(water parsnip.) *S.*

BUPLEURUM. Fruit ovate-oblong, gibbose, obtuse, with prominent, acute, abrupt ribs, with flat interstices and contracted juncture: calyx none or scarcely any: petals equal, broadish, involute: styles short. 45. 60.

ATREMA. Teeth of the calyx 5, acute, small, permanent: petals obovate.emarginate, with sub-equal inflexed divisions: fruit sub-didymous, sub-globose, ventricose, marked with 5 prominent ribs. 45. 60.

CORIANDRUM. Seeds sub-spherical: germ spherical: perianth 5-toothed: petals cordate-inflexed, outer ones largest: involucre 1-leaved, or wanting. 45. 60—(coriander.)

Seeds with winged or filletted margins; or thin dorsal fillet-like ribs.

ANGELICA. Seeds with 3 ribs on their backs, and winged margins; intervals between the ribs grooved: germ oval, corticate: general involucre none. 45. 60—(angelica.) *S.*

FERULA. Calyx minute entire: petals oblong, sub-equal: fruit sub-oval, compressed, flat, wing-margined: seeds with 3 dorsal lines; intervals and joining sides striate: general involucre caducous, partial ones many-leaved. 45. 60.

ANETHUM. Seeds flat or convex, 5-ribbed: germ lenticular, compressed: calyx and petals entire: involucres none. 45. 60—(fennel, dill.)

ARCHEMORA. Calyx with the margin 5-toothed: petals obcordate with inflexed divisions: fruit compressed at the back; sides dilate into a membranaceous margin rather broader than the seed: fruit covering 2-parted. Leaves pinnatifid. No general involucre, but many-leaved partial ones. Flowers white. 45. 60.

PASTINACA. Seeds emarginate at the apex, somewhat winged; ribs 3 besides the wings; intervals striate; joining sides 2-striate: germ oval, compressed: perianth-calyx entire: petals entire, incurved, sub-equal: involucre none. 45. 60—(parsnip.)

Seeds with wing-like ribs.

HERACLEUM. Seeds with winged margins, and 3 ribs on the back, obtuse, and 3 grooves on their outer sides, with the intervals dotted half way down; joining sides flat, with 2 dots; germ oval, emarginate at the apex: petals emarginate, inflexed: general involucre none, partial involucre 3 to 7-leaved: flowers somewhat radiated. 45. 60—(cow parsley.)

POLYTAENIA. Calyx 5-toothed: petals oval, emarginate, with

inflexed divisions: fruit oval, compressed from its lenticular back, very glabrous with a smooth-tumid margin; a pair of dorsal fillets between the pair of seeds. 45. 60.

PEUCEDANUM. Calyx minute, 5-toothed: petals oblong, incurved, equal: fruit oval, compressed, surrounded with a winged margin, having 5 striae on each seed, and elevated intervals, joining sides flat. 45. 60—(sulphur wort.)

TRIPOCARPUS. Calyx 5-toothed; teeth subulate: petals obcordate, with inflexed margins: fruit pyramid angled: commissure thick, furrowed in the middle, filletted within. 45. 60.

CNEOPTERUS. Calyx minutely 5-toothed: petals round-oval, inflexed at the apex: fruit sub-oval, compressed, 7 or 8-winged; wings undulated; joining sides naked. Plant smooth, low, root perennial. Umbel with 4 to 6 short rays. Sub-polygamous. 45. 60.

CYNOSCIADIUM. Calyx with 5 permanent subulate teeth: petals sub-obovate, obtuse, entire, flat: fruit oval-oblong or ovate, tapering to the apex—the slender foot in conical permanent, and the style is very short and reflexed; lateral margins two; fruit covering 2-parted. Plant glabrous: stem angled. 45. 60.

SESELI. Umbel globose: margin of the calyx 5-toothed: petals obovate: fruit oval or oblong, crowned with a reflexed style. 45. 60.

CNIDIUM. SELINUM. Seed ovate, solid; ribs 5, acute, somewhat winged; intervals furrowed, striate: general involucre wanting, partial 1-leaved or none. 45. 60. *S.*

THASPIUM. Calyx 5-toothed at the margin: petals oval, tapering into *long* inflexed apexes: fruit not contracted at the side sub-oval; wings sub-equal filletted at the joining edges; seed terete. No general involucre, partial ones 3-leaved. 45. 60.

LIGUSTICUM. Seeds with 5 acute ribs and 4 intervening grooves: germ oblong, corticate: general and partial involucres many-leaved. 45. 60—(lovage.) *S.*

ORDER III. TRIGYNIA.

A. *Flowers superior.*

VIBURNUM. Calyx 5-parted or 5-toothed, small: corol bell-form 5-cleft, with spreading or reflexed lobes: stigmas almost sessile: berry or drupe 1-seeded. 43. 58—(snowball, sheep-berry, high cranberry.) *S.*

SAMBUCUS. Calyx 5-parted or 5-cleft, small: corol sub-urceolate, or sub-rotate, 5-cleft: stigma minute, sessile: berry globose, 1-celled, 3-seeded. 43. 58—(elder.) *S.*

B. *Flowers inferior.*

RHUS. Calyx 5-parted: petals 5: berry 1-seeded, small, sub-globular. 43. 94—(sumach, poison-ivy.) *S.*

STAPHYLEA. Calyx 5-parted, coloured: petals 5 on the margin of a glandular 5-angled disk: capsules inflated, connate; nuts globular, having a cicatrice, 1 or 2 remaining in each capsule, though several appear as rudiments while in bloom. 23. 95—(bladder nut.) *S.*

SAROTHRA. Calyx 5-parted: petals linear: capsule 1-celled, 3-valved, coloured. 20. 68—(pin-weed.) *S.*

Southern.

TURNERA. Calyx 5-cleft, funnel-form, often with bracts at the base: petal 5 with claws, inserted on the calyx: stigmas many-cleft: capsule 1-celled, 3-valved. 37. 79.

LEPUROPETALON. Calyx 5-parted: petals 5 resembling scales, inserted into the calyx: capsule free near the summit, 1-celled, 1-valved. 21. 84.

* Polygonum, Arenaria, Hypericum, Panax.

ORDER IV. TETRAGYNIA.

PARNASSIA. Calyx inferior, permanent, 5-parted: corol 5-petalled: nectaries 5-fringed, with stamen-like divisions; globular tips: stigmas sessile: capsule 4-valved, 1 or 2-celled: seed membranaceous-margined. 14. 84—(parnassus grass, flowering plantain.) *S.*

ORDER V. PENTAGYNIA.

ARALIA. Umbellets involucred; perianth 5-toothed, superior: petals 5: stigmas sessile, sub-globose: (oblong) berry crowned, 5-celled; cells 1-seeded. 46. 59—(spikenard, wild sarsaparilla.) *S.*

STATICE. Calyx 1-leaved, entire, plaited, scarious, inferior: corol 5-petalled: capsule 1-seeded, valveless, covered with the permanent calyx. 48. 33—(marsh rosemary.) *S.*

LINUM. Calyx 5-leaved or 5 parted, permanent: corol 5-petalled, inferior, with claws: capsule 5 or 10-valved, 10-celled: seeds solitary, ovate, compressed: filaments spreading or united at the base. 14. 82—(flax.) *S.*

SIBBALDIA. Calyx 10-cleft, with the alternating segments narrower: petals 5, inserted in the calyx: styles attached to the germ laterally: seeds 5, in the bottom of the calyx. 35. 92. *S.*

* Spergula. Cerastium.

ORDER VI. HEXAGYNIA.

DROSERA. Calyx inferior, deeply 5-cleft, permanent: petals 5, marcescent: anthers adnate: styles 6, or one deeply divided: capsule round, 1 or 3-celled, many-seeded; valves equalling the number of stigmas. 20. 68—(sundew.) The leaves of all the species are beset with glandular hairs resembling dew. *S.*

ORDER XII. POLYGYNIA.

MYOSURUS. Petals 5, with tubular, honey-bearing claws: seeds naked: calyx spurred at the base. 26. 61.

XANTHORHIZA. Calyx 0: petals 5: nectaries 5, pedicelled: capsule half 2-valved, 1-seeded, about 5 in number. 26. 61—(yellow-root.) *S.*

CLASS VI. HEXANDRIA.

ORDER I. MONOGYNIA.

A. *Flowers having a perianth and corol, without a spathe.*

TRADESCANTIA. Calyx inferior, 3-leaved: corol 3-petalled; filaments with jointed beards: capsules 3-celled, many-seeded. 6. 13—(spiderwort.) *S.*

CAULOPHYLLUM. LEONTICE. Calyx inferior, 3—6-leaved, caducous: nectaries 6, sub-reniform, fleshy, glutinous at the margin, attached to the claws of the petals: seed naked, elevated on a stipe after having burst its caducous pericarp. The seed was formerly taken for a drupe, until Brown detected the error. 24. 78—(Poppoose root.) *S.*

BERBERIS. MAHONIA. Calyx inferior, 6-leaved: petals 6, with 2 glands at the claw of each: style 0; berry 1-celled, 2 or 4-seeded: (stigma umbilicate: stamens spring up on being irritated.) 54. 78—(barberry.) *S.*

PRINOS. Calyx inferior, 6-cleft, small: corol wheel-form, 6-cleft or 6-parted: berry 6-seeded: seeds nut-like. 43 95—(winter-berry.) *S.*

FLŒRKEA. Calyx 3-leaved, inferior: corol 3-petalled, shorter: style 2-cleft: capsule bladder-like, 2 or 3-grained. 54. 92—(false mermaid.)

CLEOME. POLANISIA. Calyx 4-leaved, inferior: petals 4, ascending to one side: glands 3, one at each sinuate division of the calyx except the lowest: stamens from 6 to 20, or more: capsule stiped or sessile, silique-like, often 1-celled, 2 valved. Does not belong to the class Tetradynamia by its natural or artificial characters. It has *no silique*, though the capsule appears like a silique, until it is opened. 25. 64—(false mustard.)

Southern.

TILLANDSIA. Calyx 3-cleft, sub-convolute, permanent: corol 3-cleft, bell tubular: capsule 1 to 3-celled: seed comose. 10. 15.

DIPHYLLIA. Calyx 3-leaved, caducous: petals 6, opposite to the divisions of the calyx: anthers adhering to the filaments, with cells opening longitudinally: berry 1-celled: seeds 2 or 3, roundish. 54. 78.

B. *Flowers having a spathe or glume, without a perianth.*

AMARYLLIS. Corol superior, 6-petalled, unequal: filaments unequal in proportion or direction, declined, inserted in the throat of the tube. 9. 17—(atamask lily.) *S.*

ALLIUM. Spathe many-flowered: corol inferior, 6-parted, very deeply divided: divisions ovate, spreading: capsule 3-celled, 3-valved, many-seeded: (flowers in close umbels or heads.) 9. 16.—(leek, garlic, onion, cives.) *S.*

HYPOXIS. Glume-like spathe, 2-valved: corol superior, 6-parted, permanent: capsule elongated, narrow at the base, 3-celled, many-seeded: seed roundish. 10. 17—(star-grass.) *S.*

PONTEDERIA. Corol inferior, 6-cleft, 2-lipped, with 3 longitudinal perforations below: capsule with utricles, fleshy, 3-celled, many-seeded: 3 stamens commonly inserted on the tip, and three on the tube of the corol. 6. 17—(pickerel-weed.) *S.*

Exotic.

GALANTHUS. Petals 3, concave, superior: nectaries (or inner petals) 3, small, emarginate: stigma simple. 6. 17—(snowdrop.)

NARCISSUS. Corol bell-form, spreading, 6-parted or 6-petalled, equal, superior: nectary bell-form, 1-leafed, enclosing the stamens. 9. 17—(jonquil, daffodil.)

Southern.

Pancratium. Corol superior, funnel-form, with a long tube; nectary 12-cleft, bearing the stamens. 9. 17.

Brodiæa. Corol inferior, bell-form, 6-parted; filaments inserted in the throat of the corol: germ pedicelled: capsule 3-celled, many-seeded. 9. 16.

Crinum. Corol superior, funnel-form, half 6-cleft; tube filiform; border spreading, recurved; segments subulate, channelled; filaments inserted on the throat of the corol, separate. 9. 17.

C. *Flowers having no calyx.*

Conostylis. Corol more than half inferior, 6-cleft, permanent, with branching hairs: anthers erect: style conic, 3-parted: stigma simple: capsule opening at top, 3-celled, 3-valved, many-seeded. 10. 18. *S.*

Aletris. Corol superior, funnel-form, wrinkled, somewhat 6-cleft, with the stamens inserted at the base of its divisions: style 3-sided, 3-partible: capsule 3-celled, many-seeded, half inferior, opening at the summit, when mature. 10. 16—(false aloe.) *S.*

Agave. Corol erect, superior, tubular, or funnel-form: filaments erect, longer than the corol: capsule triangular, many-seeded. 10. 15—(agave.) *S.*

Phalangium. Corol inferior, 6-petalled, spreading: filaments smooth: capsule ovate: seeds angular. 10. 16.

Narthecium. Corol 6-petalled, inferior, spreading, permanent: filaments thread-form, hairy: capsule prismatic, 3-celled; seeds many, appendaged, or long and slender, at both ends. 10. 13—(false asphodel.)

Ornithogalum. Corol 6-petalled, inferior, erect, permanent, spreading above the middle: filaments dilated, or subulate, at the base: capsule roundish, angled, 3-celled; seed roundish, naked. 10. 16.—(star of Bethlehem.) *S.*

Lilium. Corol inferior, liliaceous, 6-petalled: petals with a longitudinal line from the middle to the base: stamens shorter than the style: stigma undivided: capsule sub-triangular, with the valves connected by hairs crossing as in a sieve. 10. 14—(lily.) *S.*

Erythronium. Corol liliaceous, inferior, 6-petalled; petals reflexed, having two pores and two tubercle-form nectaries at the base of the three inner alternate petals: capsule somewhat stiped; seeds ovate. 11. 14—(dog-tooth violet, or adder-tongue.) *S.*

Uvularia. Corol inferior, 6-petalled, with a nectariferous hollow at the base of each petal: filaments very short, growing to the anther: stigmas reflexed (perhaps on the divisions of the style): capsule 3-cornered, 3-celled, 3-valved; with transverse partitions: seeds many, subglobose, arilled at the hilum. 11. 12—(bell-wort.) *S.*

Streptopus. Corol inferior, 6-petalled, sub-campanulate: stigma very short: berry sub-globose, smooth, 3-celled: seeds few, not arilled on the hilum. 11. 12—(rose bellwort.) *S.*

*Convallaria. Smilacina. Polygonatum. Dracæna. Corol in-

*I follow Dr. Torry, with pleasure, in bringing back these three genera to the Convallaria.

ferior, 6-cleft: berry globose, 3-celled, spotted before ripening. 11. 12—(solomon seal.) *S.*

Asparagus. Corol inferior, 6-cleft, or 6-parted, erect; the 3 inner divisions reflexed at the apex: style very short; stigmas 3: berry 3-celled, cells 2-seeded. 11. 12—(asparagus.) *S.*

Exotic.

Polyanthes. Corol funnel-form, incurved: filaments inserted in the throat: stigma 3-cleft: germ within the bottom of the corol. 10. 14—(tuberose.)

Hyacinthus. Corol roundish or bell-form, equal, 6-cleft: three nectariferous pores at the top of the germ: stamens inserted in the middle of the corol: cells somewhat 2-seeded. 10. 16—(hyacinth.)

Tulipa. Corol 6-petalled, liliaceous: style none; stigma thick: capsule oblong, 3-sided. 10. 14—(tulip.)

Asphodelus. Corol 6-parted, spreading: nectary covering the germ with 6 valves. 10. 16—(king's spear, or asphodel.)

Hemerocallis. Corol 6-parted, tubular, funnel-form: stamens declined: stigma small, simple, somewhat villose. 10. 14—(day-lily.)

Southern.

Yucca. Corol inferior, bell-form, segments not nectariferous: filaments sub-clavate: style none: capsule oblong; with 3 obtuse angles, 3-celled, opening at the summit: seeds flat. 10. 14—(adam's needle.)

Fritillaria. Corol inferior, 6-petalled, bell-form, with a nectariferous cavity above the claw of each: stamens of the length of the corol: seeds flat. 10. 14—(crown imperial.)

Scilla. Corol 6-petalled, spreading, caducous: filaments thread-form, attached to the base of the petals. 10. 16—(squills.)

D. *Flowers incomplete; having perianth-like calyx or corol; but neither in perfection.*

Orontium. Receptacle spadix-like, cylindric, covered with florets: spathe 0: corol 6-petalled, naked: style 0; capsule bladder-like, 1-seeded. 2. 7—(floating arum.) *S.*

Acorus. Receptacle spadix-like, cylindric, covered with florets: calyx 6-parted, naked: corol 0; (or calyx none, corol 6-parted or 6-petalled:) style none; stigma a mere point: capsule 3-celled, 3-seeded. 2. 7—(sweet flag.) *S.*

Juncus. Glume or outer calyx, 2-valved; perianth inferior, 6-leaved, glume-like permanent: stigmas 3: capsules 1 or 3 celled, 3-valved, many-seeded; seeds attached to a partition in the middle of each valve. 5. 13—(rush-grass, bul-rush.) *S.*

Luzula. Glume, or outer calyx, 2-valved; perianth 6-leaved, glume-like: capsule 3-celled, 3-valved, many-seeded; valves without partitions. 5. 13—(false rush-grass.) *S.*

* Trientalis, Laurus, Lythrum, Corydalis, Polygonum.

Order II. Digynia.

Exotic.

Oryza. Calyx, glume 2-valved, 1-flowered: corol 2-valved, adhering to the seed. 4. 10—(rice.)

Southern.

Oxyria. Perianth simple, 4-leaved, 2 inner leafets largest: corol none: nut 3-sided, with a broad membranaceous margin: stamens 2 to 6: stigma large, plumose. 12. 28.

Nectris. Cabomba. Calyx inferior, 6-leaved: corol none: capsules 3, not opening. The calyx may be considered as 6-parted, and the 3 inner divisions are petal-like, obtuse, and smaller. The capsule is bladder-like, 1 or 2-celled, 1 or 2-seeded. 15. 61.

Order III. Trigynia.

Melanthium. Polygamous. Calyx 0: corol wheel-form, 6-parted or 6-petalled, each part with 2 glands at the base: stamens from the lengthened claws of the petals: capsule ovatish, somewhat 3-cleft at the apex, 3-celled; seeds membrane-winged, numerous. 10. 13—(black-flowers.) *S.*

Zigadenus. Calyx 6-leaved, spreading, with 2 glands above the narrow base of each leaf: stamens inserted in contact with the germ: capsule membranaceous, 3-celled, many seeded. (Calyx is colored and corol-like.) 10. 13—(zigadene.) *S.*

Veratrum. Polygamous or dioecious. Calyx 6: corol 6-parted or 6-petalled, sessile, spreading, without glands: capsules 3, adnate, many-seeded. (The staminate flowers have the rudiment of a pistil.) 10. 13—(itchweed, or swamp hellebore.) *S.*

Helonias. Calyx 0: corol 6-parted or 6-petalled, spreading, glandless: styles distinct: capsules 3-celled, 3-horned, few seeded. 10. 13—(helonias.) *S.*

Xerophyllum. Corol wheel-form, deeply 6-parted: filaments contiguous at the base: stigmas 3, revolute, sub-connate at the base: capsule sub-globose, opening at the top into three fissures, 3-celled, each 2-seeded. 10. 13.

Topielda. Calyx 3-cleft or 3-leaved, inferior: petals 6: anthers roundish: styles vertical, short: capsules 3, joined at the base, many-seeded. 10. 13. *S.*

Scheuchzeria. Calyx 6-parted, inferior: corol 0: (or corol 6-parted and calyx 0;) anthers linear: stigmas sessile, lateral: capsules 3, inflated, 1 or 2-seeded. 5. 7—(less flowering rush.)

Triglochin. Calyx 3-leaved, inferior: corol 3-petalled, resembling the calyx: (or a double calyx with 3 outer and 3 inner leaves) stamens 3 or 6: styles 0: stigmas 3 or 6, hairy: capsules 3 or 6, united above and separate at their bases, 1-seeded, not opening. 5. 7—(arrow-grass.) *S.*

Gyromia. Medeola. Calyx 0: corol deeply 6-parted, revolute: anthers slightly attached to the filaments: style 0: stigmas 3, long-linear, revolute-spreading, slightly united at the base: berry 3-celled, cells 5 or 6-seeded: seeds compressed, 3-sided. 11. 12—(indian cucumber.) *S.*

Trillium. Calyx 3-leaved: inferior, spreading: corol 3-petalled: styles 0: stigmas 3: berry 3-celled, many-seeded. 11. 12—(false wake robin.) *S.*

Rumex. Calyx 3-leaved: petals 3, valve-like, converging, (or calyx 6-leaved, and corol none:) stigmas many-cleft: seed 1, naked, three-sided. 12. 28—(dock, field-sorrel.) *S.*

Southern.

SABAL. Flowers perfect: spathes partial: filaments unconnected, thickish at the base: drupe spherical, dry-cartilaginous: seed 1, indurated. 1. 11—(false fan palm.)

CHAMAEROPS. Flowers polygamous: spathe compressed; spadix branched: perianth 3-parted: corol 3-petalled: filaments partly united: drupe 3-celled, 2 of them often empty. The staminate flowers grow on distinct plants. 1. 11—(fan-palm.)

CALOCHORTUS. Corol 6-parted, spreading; 3 inner segments larger, with the upper side woolly, and marked near the base with a roundish smooth spot: filaments short, inserted on the base of the petals: anthers arrow-form, erect: stigmas reflexed: capsule 3-celled. 10. 14.

NOLINA. Corol 6-parted, spreading; segments nearly equal: styles very short; stigmas recurved: capsule 3-sided, membranaceous, 3-celled, opening by a divisible partition: seed 1, incurved, convex, abortive in 1 or 2 of the cells. 10. 13.

ORDER VI. HEXAGYNIA.

*Saururus (rarely.)

Southern.

WENDLANDIA. MENISPERMUM? Calyx 6-leaved: coral 6-petalled: (succulent?) styles reclined: germs 6: berries with 1 compressed nut-like seed. 11. 77—(false moonseed.)

ORDER XIII. POLYGYNIA.

ALISMA. Calyx 3-leaved: petals 3: capsules numerous, 1-seeded, not opening. 5. 13—(water-plantain.) *S.*

CLASS VII. HEPTANDRIA.

ORDER I. MONOGYNIA.

TRIENTALIS. Calyx 7-leaved: corol 7-parted, equal, flat: berry juiceless, 1-celled, many-seeded: number of stamens variable. 20. 35—(chick-winter-green.)

AESCULUS. Calyx bellfo-m, 5-lobed: petals 4 or 5, expanded; limbs ovate: filaments recurved inwardly: capsules prickly. Leafets sessile or sub-sessile. 23. 66.

S. G. PAVIA. Calyx tubulose: petals 4, erect, narrow: stamens straight: capsule not prickly. 23. 66.

*Sabbatia.

ORDER III. TRIGYNIA.

*Polygonum.

ORDER IV. TETRAGYNIA.

SAURURUS. Calyx in an ament or spike, with 1-flowered scales: corol 0: anthers adnate to the filaments: germ 4: berries or capsules 4, 1-seeded: stamens 6, 7, 8 or more. 2. 98—(lizard tail.) *S.*

CLASS VIII. OCTANDRIA.

ORDER I. MONOGYNIA.

A. *Flowers superior.*

RHEXIA. Calyx pitcher-form, 4 or 5-cleft: petals 4, oblique, inserted on the calyx: anthers declined, attached to the filaments behind, naked at the base: capsule 4-celled, within the calyx, setose: seeds numerous, cochleate. 17. 90—(deer-grass.) *S.*

ŒNOTHERA. Calyx 4-cleft, tubular, caducous; divisions deflected: petals 4, inserted on the calyx: stigma 4-cleft: capsule 4-celled, 4-valved; seed not feathered, affixed to a central 4-sided columella. 17. 88—(scabish, or tree-primrose.) *S.*

GAURA. Calyx 4-cleft, tubular: corol 4-petalled, ascending towards the upper side; nut 4-cornered, 1-seeded. 17. 88—(virginian loose-strife.) *S.*

EPILOBIUM. Calyx 4-cleft, tubular, or 4-leaved: corol 4-petalled: capsule oblong and of great length: seeds feathered. 17. 88—(willow-herb.) *S.*

OXYCOCCUS. Calyx superior, 4-toothed: corol 4-parted, the divisions sub-linear, revolute: filaments converging; anthers tubular, 2-parted: berry many-seeded. 18. 51—(cranberry.) *S.*

Exotic.

FUCHSIA. Calyx funnel-form, colored, superior, caducous: petals (or nectaries) 4, sitting in the throat of the calyx, alternating with its divisions: stigma 4-sided-capitate: berry oblong, 4-celled: seeds numerous. 17. 88—(ear-drop.)

Southern.

CLARKIA. Calyx 4-cleft, tubular: corol 4-petalled, 3-lobed-crossform, with claws: stamens 4, with roundish anthers, imperfect: stigma petallike, 4-lobed: capsule 4-celled. 17. 88—(false tree-primrose.)

B. *Flowers inferior.*

MENZIESIA. Calyx monophyllous: corol monopetalous, ovate: filaments inserted on the receptacle; anthers awnless: capsules 4-celled, the partitions from the inflexed margins of the valves: seeds many, oblong. 18. 50. *S.*

ACER. Polygamous. Sometimes hexandrous. Calyx 5-cleft: corol 4 or 5-petalled, or wanting: samaras 2, united at the base, 1-seeded, often one rudiment of a seed. 23. 66—(maple.) *S.*

DIRCA. Calyx 0: corol tubular; limb obsolete, unequal; stamens unequal, longer than the tube of the corol: style filiform: berry or drupe 1-seeded. (The corol may be taken for a colored calyx. 31. 25—(leather-wood.) *S.*

JEFFERSONIA. Calyx 4 or 5-leaved, colored, caducous: corol 8-petalled: capsule obovate, sub-stiped, 1-celled, dehiscent below the top: seeds many, oblong, arilled at the base. 27. 62—(twin-leaf.)

Exotic.

ERICA. Calyx 4-leaved, permanent: corol 4-cleft, permanent? filaments inserted on the receptacle: anthers bifid? capsules membranace-

ous, 4 to 8-celled, the partitions from the margins of the valves: seeds many in each cell 18. 51—(heath.)

Daphne. Calyx 0: corol 4-cleft, withering, including the stamens: drupe 1-seeded. 31. 25—(mezereon.)

Tropæolum. Calyx 4 or 5-cleft, colored, spurred: petals 4 or 5, unequal; nuts leathery, sulcate. 23. 73—(nasturtion.)

Southern.

Elliottia. Calyx 4-toothed, inferior: corol deeply 4-parted: stigma capitate. 18. 51—(false spiked alder.)

Antris. Flowers perfect: calyx 4-toothed, permanent: petals 4, inferior, wedge-form, having claws, imbricate in the bud: the 8 stamens all shorter than the petals: germ 1-celled, sitting on a thickened disk-form receptacle; stigma sessile; drupe with a 1-seeded leaflike nucleus. 43. 94.

*Æsculus, Vaccinium, Gaultheria, Polygala, Populus.

Order II. Digynia.

Chrysosplenium. Calyx superior, 4 or 5-cleft, colored: corol 0: capsule 2-beaked, 1-celled, many-seeded. (The terminal flowers in the European specimens are decandrous, but the plant is always octandrous in America.) 13. 84—(golden saxifrage, water-carpet.) *S.*

Order III. Trigynia.

Polygonum. Calyx inferior, 5-parted, colored: corol 0: seed 1, angular, covered with the calyx. Stamens and pistils vary in number. The calyx in some species might be taken for a corol. 12. 28—(knotgrass, water-pepper, buckwheat, hearts-ease.) *S.*

Southern.

Brunichia. Calyx tubular, inflated, 5-cleft: angular at the base and decurrent into the dilated peduncle, becoming coriaceous: corol none: styles short: stigmas 2-cleft: pericarp lobed; seed 1, 3-sided. Stamens vary from 8 to 10. 12. 28.

Cardiospermum. Calyx 4-leaved: petals 4: nectary 4-leaved, unequal: capsule membranaceous, inflated, 3-lobed, 3-celled: seeds round, marked at the hilum with a heart form spot. 23. 65—(heart seed.)

Sapindus. Calyx 4-leaved: petals 4, glandular at the base: capsule 3, connate, fleshy, inflated, 2 of them often empty: seed spherical. 23. 65—(soap-berry.)

*Myriophyllum.

Order IV. Tetragynia.

Southern.

Adoxa. Calyx inferior, 2 or 3-cleft: corol 4 or 5-cleft, apparently superior: berry 1-celled, 4 or 5-seeded, attached to the calyx. Flowers lateral, stamens 8 to 10. 13. 84.

CLASS IX. ENNEANDRIA.

Order I. Monogynia.

Laurus. Calyx 4 to 6-parted; corol: nectaries 3, each a 2-bristled or

2-lobed gland, surrounding the germ: drupe 1-seeded. Stamens vary from 3 to 14, but they are generally in two series of 6 each, with 3 of the inner series barren—often dioecious. The calyx may be taken for a corol. 12. 27—(sassafras, spice-bush.) *S.*

Order II. Digynia.

Southern.

Eriogonum. Calyx wineglass-form, tubular at the base; border 6-cleft; segments unequal, villous outside: corol none: seed 1, 3-sided, without margins, covered by the calyx. Flowers involucred—no stipules. 12. 28.

Pleea. Calyx none: corol 6-parted, spreading; segments linear, acute: capsule roundish, 3-angled, 3-celled; partitions obsolete: seeds numerous, minute, sub-terete and caudate, attached to the margin of the valves. 5. 13.

Order III. Trigynia.

Exotic.

Rheum. Calyx none: corol 6-cleft, permanent: seed 1, 3-sided. 12. 28—(rhubarb.)

*Lechea.

CLASS X. DECANDRIA.

Order I. Monogynia.

A. Flowers polypetalous, irregular, (mostly papilionaceous.)

Cassia. Calyx 5-leaved: corol 5-petalled: anthers 3, lower ones beaked, and on longer incurved filaments, legume membranaceous. 33 93—(cassia.) *S.*

Baptisia. Podalyria. Calyx 4 or 5-cleft half-way, (sometimes 4-toothed) somewhat 2-lipped: corol papilionaceous; wings of the length of the reflexed banner; stamens caducous; legume inflated, smooth, many-seeded. 32. 93—(wild indigo.) *S.*

Cercis. Calyx 5-toothed, gibbous below: corol papilionaceous; wings longer than the banner: keel 2-petalled: legume compressed: seed-bearing suture margined: seeds obovate. 33. 93—(judas-tree.) *S.*

Rhodora. Calyx 5-toothed: corol 3-petalled; or 2-petalled, with the upper one deeply parted: stamens declined: capsule 5-celled, 5-valved, opening at the top: partitions formed of the inflexed margins of the valves. 18. 50—(rhodora.)

Southern.

Sophora. Calyx 5-toothed, bell form, gibbous on the upper side: corol papilionaceous, wings of the length of the banner: legume with globular joints. 32. 93.

Thermia. Thermopsis. Calyx somewhat bell-form, half 4-cleft; the upper segment truncate and emarginate: corol papilionaceous, with petals about equal length; banner reflexed at the sides, keel obtuse: legume many-seeded, compressed, falcate, tapering to the base. 32. 93.

Virgilia. Calyx 5-cleft: corol papilionaceous, with petals of about

equal length: sides of the banner not reflexed: stigma beardless: legume compressed, oblong, many-seeded. 32. 93.

POMARIA. Calyx turbinate, 5-parted, caducous: petals 5, with short claws, upper ones concave, short: filaments hirsute below: stigma capitate: legume 1-celled, 2-seeded. 32. 93.

B. *Flowers polypetalous, regular.*

PYROLA. Calyx 5-parted: petals 5: styles longer than the stamens: anthers with 2 pores at the base before, and the top after, the opening of the flower: capsule 5-celled, dehiscent at the angles near the base. 18. 51—(shinleaf.) *S.*

CHIMAPHILA. Calyx 5-parted: petals 5: anthers beaked, with 2 pores at the base before, and at the top after, the opening of the flower; style immersed: stigma thick, orbiculate: capsule 5-celled, dehiscent at the angles near the summit. 18. 51—(prince's pine, pipsissiwa.) *S.*

LEDUM. Calyx small, 5-toothed: corol flat, 5-petalled or 5-parted: stamens exsert: anthers opening by 2 terminal pores: capsule 5-celled, dehiscent at the base, 5-valved, valves with approximating, inflexed margins: receptacle 5-lobed: columella 5 angled, pedicelled: seeds numerous, winged. (Stamens sometimes 5: leaves downy.) 18. 50—(labrador-tea.)

LEIOPHYLLUM. Calyx 5-parted: corol flat, 5-parted or 5-petalled: stamens longer than the corol, with lateral anthers opening longitudinally on their insides: capsule 5-celled, dehiscent at the top, 5-valved; valves ovate with margins inflexed, remote, straight; columella subovate, terete, rugose: seeds small, not winged, (leaves always glabrous.) 18. 50—(sleek leaf.) *S.*

CLETHRA. Calyx 5-parted, permanent: coral 5-petalled: style permanent: stigma short, 3-cleft: capsule 3-celled, 3-valved, enclosed by the calyx. (Spiked.) 18. 51—(sweet pepper-bush.) *S.*

Exotic.

RUTA. Calyx 5-parted: petals concave: receptacles surrounded by 10 nectariferous dots: capsule lobed. (Petal sometimes 4, and stamens 8.) 26. 81—(rue.)

Southern.

MYLOCARYUM. Calyx 6-toothed: petals 5: stigma capitate, 3-cornered, sessile: capsule superior, somewhat corky, 2 or 3-winged, 3-celled, 1-seeded: seed subulate. 23. 51—(buckwheat tree.)

MELIA. Calyx 5-parted, small: petals 5: nectary cylindric, 10-toothed; teeth 2-cleft at the points, orifice bearing the anther within: style cylindric: stigma 5-rayed: drupe globose; nut 5-celled, 5-seeded. 54. 71—(pride of china.)

SWIETENIA. (Cedrus Miller's Dic.) Calyx small, 4 or 5-cleft: petals 4 or 5: stamens 8 to 10, filaments united into a tube, toothed at the apex, bearing the anthers within: style 1: stigma capitate; capsule woody, 5-celled: seed expanded into wings. 37. 71—(mahogany tree.)

TRIBULUS. Calyx 5-parted: petals 5, spreading: styles none: stigma partly 5-cleft: capsules generally 5, gibbous sub-spinose, 2 or 3-seeded. 14. 81—(caltrops.)

DIONÆA. Calyx 5-parted or 5-leaved: petals 5: stigma fringed: cap-

sule roundish, gibbous, 1-celled, many-seeded. Petals sometimes 6. 20. 68—(venus fly-trap.)

Jussiæa. Calyx 4 or 5-parted, superior, permanent: petals 4 or 5, ovate: capsule 4 or 5-celled, 4 or 5-valved, oblong, cylindric or angular; many-seeded; seeds minute, attached to an angular columella. Stamens sometimes but 8. 17. 88.

Prosopis. Calyx hemispherical, 4-toothed; petals 5, lance-linear, recurved at the apex: filaments capillary, adnate at the base; stigma simple; legume long, many-seeded. 33. 92.

C. *Flowers monopetalous.*

Arbutus. Calyx inferior, 5-parted, minute: corol ovate, pellucid at the base; border small, 5-cleft revolute: filaments hairy: berry 5-celled. 18. 51—(bear berry.)

Epigæa. Calyx double, outer 3-leaved, inner 5-parted: (or calyx 5-parted, with 3 bracts) corol salver-form; border 5-parted, spreading: tube villose within: capsule 5-celled, many-seeded; receptacle 5-parted. 18. 51—(trailing arbutus.) *S.*

Gaultheria. Calyx inferior, double; outer 2-leaved, inner 5-cleft; (or calyx 5-cleft, with 2 bracts;) corol ovate; border small, 5-cleft, revolute: filaments hairy: receptacle 10-toothed; (or with a 10-pointed nectary:) capsule 5-celled, invested with the inner-berry-like calyx. 18. 51—(spicy wintergreen.) *S.*

Vaccinium. Calyx superior, 5-toothed or 5-parted: corol bell or pitcher-form, 5-cleft, the divisions reflected: filaments inserted on the germ with the corol: berry 4 or 5-celled, many seeded. (The foreign species are sometimes octandrous.) 18. 51—(whortleberry.) *S.*

Andromeda. Calyx 5-parted or 5-toothed, inferior: corol ovate, roundish, or sub-cylindric, with a 5-cleft reflexed mouth: capsule 5-celled, 5-valved, with partitions contrary. (Stamens sometimes 8.) 18. 51—(white-bush, leather-leaf.) *S.*

Kalmia. Calyx 5-parted: corol wheel-salver-form, with 10 horns beneath and 10 cavities within, containing the anthers until the pollen is mature: capsule 5-celled, many-seeded. 18. 50—(laurel.) *S.*

Rhododendron. Calyx 5-parted: corol 5-cleft, somewhat funnel-form and oblique: stamens declining; varying from 5 to 10; anthers opening by 2 terminal pores: capsules 5-celled, 5-valved, opening at the top. 18. 50—(rosebay.) *S.*

D. *Flowers without a calyx: (or with a colored petal-like one) whole plant destitute of green herbage.*

Monotropa. Corol confusedly polypetalous, permanent: petals 5 to 7, with nectariferous hollows at their bases: anthers reniform, sub-peltate, 1-celled, giving out pollen by 2 holes near the middle: stigma orbicular, not bearded: capsule 5-celled, 5-valved. 18. 51—(bird's nest.) *S.*

Hypopithys. Corol confusedly polypetalous, permanent: inner 4 or 5 petals with nectariferous hollows at their bases; outer ones without the hollows: anthers sub-peltate, 1-celled, opening their whole length: stigma orbicular, with a bearded margin: capsule 5-celled, 5-valved. 18. 51—(false beech-drops.)

Pterospora. Corol 5-parted: nectary ovate, with a 5-toothed reflexed margin, enclosing the stamens: anthers 2-celled, 2-bristled, sub-

peltate; filaments flat: style short: stigma capitate: capsule sub-globose, 5-celled. The nectary is considered as a corol, and the corol as a calyx, by some. But these three genera should be united in one, by altering two or three words in the definition. 18. 51—(albany beech-drops.)

Southern.

Monotropsis. Corol 5-petalled, withering, ovate-acuminate, close-pressed to the nectary: nectary bell-form, fleshy: limb with 5 ovate-acute divisions: anthers clavate, bag-like: germ 4 or 5-sided: stigma sub-globose. 18. 51—(carolina beech-drops.)

*Geranium, Betula, Jeffersonia, Asclepias, Portulacca, Lythrum.

Order II. Digynia.

Hydrangea. Calyx 5-toothed, superior: corol 5-petalled: capsule 2-celled, 2-beaked, dehiscent between the beaks. 13. 58—(hydrangea.) Vid. Hortensia. *S.*

Saxifraga. Calyx 5-parted, mostly half superior: corol 5-petalled: capsule 2-celled, 2-beaked, opening between the beaks; many-seeded. 13. 84—(saxifrage.) *S.*

Tiarella. Calyx 5-parted, permanent: corol inserted on the calyx, 5-petalled; petals entire, with claws: capsule 1-celled, 2-valved, one valve larger. Sometimes the petals are more or less toothed. 13. 84—(mitre-wort.) *S.*

Mitella. Calyx 5-cleft, permanent: petals 5 on the calyx, pinnatifid: capsule 1-celled, 2-valved, valves equal. 13. 84—(false sanicle, currant leaf.)

Tellima. Calyx adnate to the base of the germ, part free, inflated, ovate, 5-toothed and part adhering conic; petals 5 on the calyx, divided: styles distinct from base; stigma sub-capitate angled: capsule 1-celled, 2-valved at the apex. 13. 84.

Leptarrhena. Calyx 5-parted or cleft, with the divisions greater or less and scarcely adhering to the germ: corol with 5 petals, shortly unguiculate, entire: stamens stand alternately opposite to the petals and divisions of the calyx: anthers 1-celled; pericarps in two, scarcely adhering at the base. Leaves leathery. 13. 84.

Saponaria. Calyx inferior, 1-leaved, tubular, 5-toothed, without scales: petals 5, with claws: capsule oblong, 1-celled. 22, 82—(soapwort.) *S.*

Dianthus. Calyx inferior, cylindrical, 1-leaved, with 4 or 8 scales at the base: petals 5, with claws: capsule cylindrical, 1-celled, dehiscent at the top. 22. 82—(pink, sweet-william.)

Scleranthus. Calyx inferior, 1-leaved, 5-cleft: corol 0: seeds 1 or 2, enclosed in the calyx: stamens inserted on the calyx. 22. 30—(knawel.)

*Chrysosplenium, Quercus.

Order III. Trigynia.

Cucubalus. Calyx inferior, 1-leaved, bell-form, inflated: petals 5, with claws, not much appendaged at the mouth: capsule 3-celled. 22. 82—(bladder-campion.) *S.*

SILENE. Calyx 1-leafed, 5-toothed, inferior, cylindric prismatic or conic: petals 5, with claws, appendaged at the mouth: capsule imperfectly 3-celled, 6-toothed, many-seeded. 22. 82.—(catch-fly.) *S.*

STELLARIA. Calyx 5-leaved, inferior, spreading: petals 5, deeply cleft, mostly to the claw, spreading: capsule ovate, 1-celled, many-seeded, 6-toothed at the top. 22. 82—(starwort.) *S.*

ARENARIA. Calyx inferior, spreading, 5-leaved: petals 5, entire: capsule 1-celled, many-seeded. 22. 82—(sandwort.) *S.*

Exotic.

HORTENSIA. Flowers deformed: florets solitary: calyx 5-toothed, minute: corol 5-petalled: the gay flowers composing the cyme have a large colored, permanent, petal-like, 5-leaved calyx, and a minute caducous, 4 or 5-petalled corol: stamens 8, 10 or 11. 13. 58—(changeable hydrangea.)

*Castanea, Acalypha, Jatropha.

ORDER IV. TETRAGYNIA.

MICROPETALUM. SPERGULASTRUM. Calyx 5-leaved, expanding: petals 5, minute, entire, often wanting: stigmas 4, sessile; capsule ovate, longer than the calyx, 4-valved. 22. 82—(blind starwort.)

ORDER V. PENTAGYNIA.

SPERGULA. Calyx 5-leaved, inferior: petals 5, entire: capsule ovate, 1-celled, 5-valved: (stamens often 5.) 22. 82—(spurry.) *S.*

CERASTIUM. Calyx 5-leaved: petals 5, 2-cleft, or emarginate: capsule 1-celled, dehiscent at the top, 10-toothed. 22. 82—(mouse-ear chickweed.) *S.*

AGROSTEMMA. Calyx 5-cleft, prismatic or tubular: coriaceous: petals 5, with claws: border obtuse, entire: capsule 1-celled, many-seeded, opening with 5 teeth. 22. 82—(cockle.) *S.*

OXALIS. Calyx permanent, 5-parted or 5-leaved, inferior: petals 5, cohering by the claws: capsule 5-celled, 5-cornered, dehiscent at the corners: seeds 2 or more in a cell, covered with an elastic aril: stamens with 5 shorter, outer ones adhering at their bases. This genus and the Linum might be removed to the class Monadelphia. 14. 73—(wood sorrel.) *S.*

PENTHORUM. Calyx 5 to 10-cleft: petals 5 or 0: capsule 5-cuspidate, 5-celled; cells divided transversely, many-seeded. 13. 86—(virginian orpine.) *S.*

SEDUM. Calyx inferior, 5-cleft: petals 5: 5 nectariferous scales at the base of the germ: capsules 5. 13. 86—(live-forever, or orpine, stonecrop.)

Exotic.

LYCHNIS. Calyx 1-leaved, oblong, 5-toothed: petals 5, with claws: the limb somewhat 2-cleft: capsule 1 or 5-celled, with a 5-toothed opening. 22. 82—(campion.)

*Portulacca, Geranium, Drosera.

Decandria

ORDER X. DECAGYNIA.

PHYTOLACCA. Calyx 0: corol 5-petalled or 5-cleft, calyx-like inferior: berry 10-celled, 10-seeded. By some authors the corol is called a calyx. 54. 29—(poke-weed.)

HORKELIA. Calyx bell-form, half-10-cleft alternating divisions accessory: petals 5, small: stamens inserted on the wall of the calyx: receptacle conic, dry, villose: germs numerous; styles simple articulated with the germs, sub-terminal. 35. 92.

CLASS XI. ICOSANDRIA.

ORDER 1. MONOGYNIA.

CACTUS. Calyx superior, many-cleft, imbricate: petals numerous, in many series, the inner ones larger: stigma many cleft; berry 1-celled, many-seeded, umbilicate. 13. 85—(prickly pear.) *S.*

BARTONIA. Calyx superior, 5-cleft: corol 10-petalled, inserted on the calyx: capsule cylindrical, oblong, 1-celled, summit flat, valvular, the valves 3 to 7: receptacle thick: seeds numerous compressed, arranged horizontally in a double series. 15. 88.*

PRUNUS. Calyx 5-cleft, inferior, bell-form: corol 5-petalled; nut of the drupe smooth, with prominent seams at the sutures. 36. 92—(cherry, plum.) *S.*

EPILOBIUM. Calyx bell-tubular, 6, 8, 10 or 12-toothed, inferior: petals 5 or 6, equal, on the calyx: capsules 2 to 4-celled, many-seeded, covered. 17. 91—(milk willow-herb.) A genus, DICODON, has been taken from this. It is founded on the cells of the capsule being always more than 2, and the teeth of the calyx being always 10, and of a peculiar form. Elliot places the species *verticillatum* under it. *S.*

CUPHEA. Calyx tubular-ventricose, 6 to 12-toothed, unequal: petals 6, mostly unequal, inserted on the calyx: capsule 1-celled, dehiscent, longitudinally with the calyx, follicle-like, 3-sided: seeds lenticular. 17. 91—(wax-bush.) *S.*

Exotic.

MYRTUS. Calyx superior, 5-cleft: petals 5: berry 2 or 3-celled, many-seeded. 19. 89—(myrtle.)

AMYGDALUS. Calyx 5-cleft, inferior: petals 5: drupe with a nut, perforated with pores: flowers sessile. 36. 92—(peach.)

ARMENIACA. Flowers sessile: calyx 5-cleft, inferior: petals 5: drupe fleshy, pubescent; nut with one margin acute and the other obtuse, furrowed both sides. 36. 92—(apricot.)

PUNICA. Calyx 5-cleft, superior: petals 5: pome or berry many-celled, many-seeded: receptacle parietal: seed berried. 36. 92—(pomegranate.)

Southern.

TORREYA. Calyx superior, 5-cleft, permanent: corol 10-petalled: capsule cylindrical, oblong, with a flat summit, 1-celled, 3 to 7-valved, filled up: receptacles in 3 to 7 fleshy masses, walled: seeds numerous, compressed, arranged in a double horizontal series. 17. 90.

*This is not the Bartonia of former editions. That is now called Centaurella.

MENTZELIA. Calyx 5-cleft, superior, caducous; petals 5: capsule 1-celled, 3-valved, cylindric, 3 to 6-seeded: top flat: seeds oblong, somewhat angular, arranged longitudinally. 17. 88.

DECUMARIA. Calyx superior, 8 to 10-cleft: petals 8 to 10: capsule 7 to 9-celled, many-seeded: seeds subulate, minute. 19. 89.

PHILADELPHUS. Calyx 4-5-parted, superior, top-form: corol 4 or 5-petalled: style 4-cleft: capsule 4-5-celled, many-seeded: seed arilled. 19. 89—(false syringa, or mock orange.)

CHRYSOBALANUS. Calyx 5-cleft, inferior: petals 5: style lateral: drupe prune-form; nut 5-grooved, 6-valved, 1-seeded. 36. 92.

PURSHIA. Calyx tubular, cleft into 5 ovate, obtuse lobes; petals 5-obovate, unguiculate, inserted in the mouth of the calyx with 25 stamens: germ oblong, full, stiped, glandular-pubescent, tapering into a subulate style: stigma pubescent, lateral, almost as long as the style. 35. 92.

ORDER II. DIGYNIA, to ORDER V. PENTAGYNIA; or DI-PENTAGYNIA.

AGRIMONIA. Calyx inferior, 5-cleft or 5-toothed, invested with an outer lobed one; petals 5: stamens 12: seeds 2, in the bottom of the calyx. 35. 92—(agrimony.) *S.*

CRATÆGUS. Calyx superior, 5-cleft: petals 5: styles 1 to 5: berry mealy: seeds 2 to 5, bony 36. 92—(thorn-bush.) *S.*

SORBUS. Calyx 5-cleft, superior: petals 5: styles 2 to 3: berry pomaceous or farinaceous: seeds 2 or 3, cartilaginous. 36. 92—(mountain ash.) *S.*

FOTHERGILLA. Calyx inferior, truncate, obsoletely crenate: corol 0: germ 2-cleft: styles 2: capsules 2-lobed, 2-celled: seeds solitary, bony. 50. 78—(witch-alder.) *S.*

SESUVIUM. Calyx superior, 5-parted, colored: corol none: capsule ovate, 3 celled, opening transversely, many-seeded. *S.* 13. 87.

ARONIA. Calyx superior, 5-toothed, or 5-parted; petals 5: fruit pomaceous: berry 5 or 10-celled; cells 1 or 2-seeded; seeds cartilaginous. 36. 92—(shadflower, choak-berry.) *S.*

PYRUS. Calyx 5-cleft, superior: corol 5-petalled: pome 5-celled, many-seeded; seed compressed-ovate. 36. 92—(pear, apple, quince.) *S.*

SPIRÆA. Calyx 5-cleft, inferior, spreading: corol 5-petalled; petals equal, roundish: stamens numerous, exsert: capsules 3 to 12, 2-valved within, each 1 to 3-seeded. 36. 92—(steeple-bush, hard-hack-) *S.*

GILLENIA. Calyx bell-tubular; border 5-toothed: corol partly unequal; petals 5, lanceolate, tapering at the claws: stamens included: styles 5, contiguous: stigmas capitate: capsules 5, connate at the base, opening on the inner side, each 2-seeded. 36. 92—(indian physic.) *S.*

Exotic.

MESPILUS. Calyx 5-cleft, superior: divisions generally foliaceous, serrate: corol 5-petalled: styles 2-5: drupe or berry with from 2 to 5 bony seeds. 36. 92—(medlar.)

MESEMBRYANTHEMUM. Calyx superior, 5-cleft: petals numerous, linear, cohering at the base: capsule fleshy, many-seeded, turbinate. 13. 87—(ice-plant.)

ORDER XII. POLYGYNIA.

ROSA. Calyx urn-form, inferior, 5-cleft, fleshy: contracted towards

Polyandria

the top: petals 5: seeds numerous, bristly, fixed to the side of the calyx within. A genus remarkable for the multiplications of its petals, by rich culture. 35. 92—(rose.) *S.*

Rubus. Calyx 5-cleft, inferior: corol 5-petalled: pistils numerous: berry composed of many juicy, 1-seeded acines, on a dry receptacle. 35. 92—(raspberry, blackberry.) *S.*

Dalibarda. Calyx 5-cleft, (8-cleft?) inferior: corol 5-petalled: styles long, caducous, 5 to 8; berry composed of dry granulations. 35. 92—(dry strawberry.) *S.*

Dryas. Calyx 8 or 10-cleft, segments equal: seeds 5 to 8: with long plumose awns. 35. 92.

Geum. Calyx inferior, 10-cleft, 5 alternate divisions smaller: corol 5-petalled: seeds with a bent awn: receptacle columnar, villous. 35. 92—(avens, or herb bennet.) *S.*

Sieversia. Calyx with a concave tube and 5-cleft limb, and 5 bracts outside: petals 5: capsules numerous caudate, disposed in a head; style permanent, straight, seed ascending. 35. 92.

Bootia. Calyx inferior, 10-cleft, 5 alternate divisions lanceolate, having at the base of the germ against them 5 nectariferous pits: corol 5-petalled: seeds awnless, affixed to a juiceless receptacle. 35. 92—(false avens.) *S.*

Potentilla. Calyx flat, inferior, 10-cleft; 5 alternate divisions smaller: corol 5-petalled: petals roundish or obovate: seeds awnless, roundish, rugose, fixed to a dry small receptacle. 35. 92—(five-finger, cinquefoil.) *S.*

Comarum. Calyx inferior, 10-cleft; 5 alternate divisions smaller; petals 5, oblanceolate, acuminate, half as long as the calyx: receptacle ovate, spongy, permanent, villous. 35. 92—(marsh five-finger.) *S.* The habit of this genus differs sufficiently from the Potentilla.

Fragaria. Calyx inferior, 10-cleft: 5 alternate divisions smaller: corol 5-petalled: receptacle ovate, berry-like: acines naked, immersed in the receptacle, caducous. 35. 92—(strawberry.) *S.*

Calycanthus. Calyx 1-leafed, pitcher-shaped, scaly, with colored petal-like divisions: corol none: styles many, with glandular stigmas: seeds many in the succulent calyx. 35. 92—(carolina allspice.) *S.*

CLASS XII. POLYANDRIA.

Order I. Monogynia.

Tilia. Calyx 5 or 6-parted, inferior, caducous: corol 5 or 6-petalled: capsule 5 or 6-celled, globular, coriaceous, dehiscent at the base; 1-seeded. Often 4 of the cells are empty. 37. 79—(bass-wood.) *S.*

Cistus. Helianthemum. Calyx 5-leaved, superior, 2 of them smaller: corol 5-petalled: capsule 1-celled, 3-valved, opening at the top: partitions contrary: seeds angular. 20. 80—(rock-rose, frost-plant.) *S.*

Hudsonia. Calyx tubular, inferior, unequally 5-parted: two of the divisions obsolete, colored: corol 5-petalled: stamens 15 to 30: capsule 1-celled. 3-valved, 1 to 3-seeded. 18. 80—(false heath.)

Portulacca. Calyx 2-cleft, inferior: corol 5-petalled: capsule 1-celled, opening transversely: columella 5, filiform. 54. 86—(purslane.) *S.*

Talinum. Calyx inferior, 2 or 5-leaved: corol 5-petalled: capsule 1-celled, 3-valved, many-seeded: seeds arillate: columella globose. 54. 86—(talinum.) *S.*

CHELIDONIUM. Calyx 2-leaved, caducous: corol 4-petalled: silique like capsule 1-celled, 2-valved, linear: seeds crested, many. 27. 62—(celandine.) *S.*

GLAUCIUM. Calyx 2-leaved, caducous: corol 4-petalled: capsule 1-celled, linear; seeds many, punctate. 27. 62.

MECONOPSIS. Calyx 2-leaved, caducous: corol 4-petalled: style distinct; stigma 4 to 6-rayed: capsule oblong, generally prickly, 1-celled, 4 to 6-valved; columella slender. 27. 62. *S.*

ARGEMONE. Calyx 3-leaved, caducous: corol 4 to 6-petalled: stigma sessile, capitate, 4 to 7-lobed; capsule ovate, angular, 1-celled, opening at the top by valves; columella linear: seeds spherical, pitted. 27. 62 (horned poppy.) *S.*

SANGUINARIA. Calyx caducous, 2-leaved: corol about 8-petalled: stigma sessile, twinned, 2-grooved: capsule pod-like, ovate, 1-celled, 2-valved, acute at each end; valves caducous: columella 2, pemanent. 27. 62—(blood-root.) *S.*

PODOPHYLLUM. Calyx 3-leaved, minute: corol 5 to 9-petalled: stigma large, crenate, sessile: berry 1-celled, crowned with the stigma, large, many-seeded: columella one-sided. 27. 62—(wild mandrake.) *S.*

ACHLYS. Calyx 0: corol 0: flowers naked, disposed in a dense spike: stamens numerous; anthers in pairs, globose, somewhat 1-celled, 2-lipped: stigma dilated concave. 27. 62.

ACTAEA. Calyx inferior, 4-leaved, caducous: corol 4-petalled: stigma sessile, capitate: berry 1-celled: seeds many, half orbicular. 26. 61—(neclace weed, bane-berry.) *S.*

MACROTYS. Calyx about 4-leaved, becoming colored before expanding, caducous: corol many minute petals, very caducous, or wanting: stigma simple, sessile, curving towards the gibbous side of the germ: capsule 2-valved, debiscent at its strait suture.* 26. 61—(cohosh, black-snake-root, bug bane.) *S.*

SARRACENIA. Calyx double, permanent, 3 and 5-leaved: corol 5-petalled, caducous: stigma peltate, permanent, very large, covering the stamens: capsule 5-celled, 5-valved, many-seeded. 54. 62.—(side-saddle flower.) *S.*

NUPHAR. Calyx 5 or 6-leaved: petals many, minute, inserted on the receptacle with the stamens, nectariferous on their backs: stigma with a broad disk, and radiate furrows, sessile: pericarp berry-like, many-celled, many-seeded. 13. 62—(water lily, or yelluw pond-lily.) *S.*

NYMPHAEA. Calyx 4 to 7-leaved: corol many-petalled, petals about equalling the length of the calyx leaves, attached to the germ beneath the stamens: stigma a broad disk, marked with radiated lines: pericarp berry-like, many-celled, many-seeded. 13. 62—(pond-lily.)

PAPAVER. Calyx 2-leaved, caducous: corol 4-petalled: stigma a broad disk, with radiating lines: capsule 1-celled, dehiscent by pores under the permanent stigma. 27. 62—(poppy.)

ESCHYCHOLTZIA. Receptacle dilated, salver-form; limb expanded, entire: calyx mitre-form, deciduous: coral 4-petalled, inserted by the claws in the throat of the receptacle, and bearing the stamens: capsule

* I see no good reason for changing this name to Botrophis, according to Rafinesque. Our plant does not agree with the discription of Actaea or Cimicifuga. I have examined it in all stages of maturing, where hundreds were growing.

silique-form, 2-valved; seeds affixed to the margins of the valves. 27. 62.

Exotic.

THEA. Calyx 5 or 6-leaved: corol 6 or 9-petalled: capsule 3-seeded. 54. 70—(tea.)

CITRUS. Calyx 5-cleft: petals 5, oblong: filaments dilated at the base, in several parcels: berry 9 to 18-celled—Polyadelphous. 18. 70—(orange, lemon.)

Southern.

BEJARIA. BEFARIA. Calyx 7-cleft: petals 7, stamens 14: capsule 7-celled, many-seeded, 18. 50.

LEWISIA. Calyx 7 to 9-leaved: petals 14 to 18: stamens 14 to 18: style about 3-cleft: stigmas 2-cleft: capsule 3-celled, many-seeded; seeds shining. 13. 86.

* Jeffersonia, Taxus, Delphinium, Monotropa.

ORDER II. DIGYNIA, TO ORDER V. PENTAGYNIA; OR DI-PENTAGYNIA.

DELPHINIUM. Calyx 0: corol 5-petalled, unequal: nectary 2-cleft, horned behind: capsules 1 or 3 pod-like. By some the corol is considered as the colored calyx. 26. 61—(larkspur.) *S.*

ACONITUM. Calyx 0: petals 5, upper one vaulted: nectaries 2, hooded, peduncled, recurved: capsules 3 or 5, pod-like. By some the corol is considered as a colored calyx. 26. 61—(monk's hood.) *S.*

RESEDA. Involucre many-leaved, spreading: perfect flowers central, apetalous spreading, surrounded by several petaloid, barren, flowers. 54. 64.

AQUILEGIA. Calyx 0: petals 5, caducous: nectaries 5, alternating with the petals, and terminating downwards in a spur-like nectary: capsules 5, *erect*; acuminated with the permanet styles, many-seeded. By some the nectaries are considered as petals, and the corol as a colored calyx. 26. 61—(columbine) *S.*

ESENBION. Calyx 5-leaved, petal-like, caducous: stamens with clavate filaments and rough anthers; pistils 2—6, style of the length of the germ: capsules 2—6, stellate, ovate, compressed: seed oval. A doubtful genus: but De Candolle requires very little authority for a new genus. 26. 61.

RHIZOPHORA. Calyx and corol 4-parted, inferior: stigmas 2: seed 1, clavate, long, in a fleshy receptacle. 17. 91.

ASCYRUM. Calyx 4-leaved; 2 interior leafets cordate, larger; corol 4-petalled: stamens with the filaments disposed in 4 parcels: styles 1 to 3: capsule oblong, 1-celled, 2-valved, included in the calyx leaves. 20. 68—(st. peter's wort.) *S.*

CIMICIFUGA. Calyx 4-leaved: corol with 4 pitcher-form nectaries: capsules 4: seeds scaly. 26. 61.

HYPERICUM. Calyx 5-parted; divisions equal, subovate: corol 5-petalled: filaments often united at the base in 3 or 5 sets: styles 2—5; capsule membranaceous, roundish, with a number of cells equal to the number of styles. The bases of the filaments are often in groups, when they are not united. 20. 68—(st. john's wort.) *S.*

Exotic.

NIGELLA. Calyx none: petals 5: nectaries 5; three-cleft, within the corol: capsules 5, convex. 26. 61—(fennel-flower.)

PÆONIA. Calyx 5-leaved: petals 5: styles 0: stigmas 2 or 3: capsules pod-like, many-seeded. Remarkable for the multiplication of petals by rich culture. 26. 61—(peony.)

Southern.

CALLIGONUM. Calyx inferior, 5-parted: corol 0: filaments 12 to 16, united at the base: germ 4-cornered; styles 4: nut with a many-winged crust, 1-celled. 12. 26.

* Fothergillia, Juglans, Myriophyllum.

ORDER XII. POLYGYNIA.

A. *Perianth none.*

HYDRASTIS. Petals 3, ovate (by some considered a colored calyx:) berry composed of 1-seeded acines. 26. 61—(orange-root.) *S.*

CLEMATIS. Petals 3, 4, 5, or 6: seeds compressed: styles permanent, becoming long plumose tails. (Spike species are dioecious.) 26. 61—(virgin's bower.) By some the corol is considered a colored calyx. *S.*

ATRAGENE. Corol double, many-petalled; outer ones largest, inner ones nectary-like, spatulate: seeds with pilose (or plumose) tails: (or petals 4 to 6, with spatulate nectaries alternating with the petals; and the outer filaments dilated.) 26. 61—(false virgin's bower.) *S.*

THALICTRUM. Petals 4 or 5: filaments very long: seeds without tails, striate, terete. (Some species are dioecious.) 26. 61—(meadow rue.) *S.* The corol is considered a colored calyx by some.

ANEMONE. Petals 5 to 9: seeds numerous, naked. 26. 61—(wind-flower, rue anemone.) *S.* The corol is considered a calyx by some.

TROLLIUS. Petals 5 to 15, caducous: nectaries 5 to 20, small, tubular at the base, linear: capsules numerous, ovate, sessile, many-seeded. 26. 61—(globe flower.) By some the nectaries are considered corols, and the corols, calyxes.

COPTIS. Petals 5 or 6, caducous: nectaries small, 5 or 6, cowled: capsules oblong, 5 to 8, stiped, stellate, beaked, many-seeded. 26. 61—(gold thread.) By some the nectaries are mistaken for corols, and the corols for calyxes.

CHRYSOCOPSIS. Calyx somewhat 12-cleft, divisions ligulate petal-like, (perhaps deciduous) petals 0: stamens 15 to 20: capsules 8 to 10, (perhaps stiped) many-seeded. 26. 61.

CALTHA. Petals 5 to 9, orbicular: capsules numerous, (5 to 10) many-seeded, compressed: 1-celled, spreading: nectaries 0: (pistils variable in number.) 26. 61—(american cowslip.) *S.* By some the corol is mistaken for a colored calyx.

Exotic.

HELLEBORUS. Petals 5 or more: nectary 2-lipped, tubular: capsules 5 or 6; many-seeded, erectish, compressed. 26. 61—(hellebore.)

B. *Having a perianth.*

MAGNOLIA. Calyx 3-leaved: corol 6 to 9-petalled: capsules numer-

ous, imbricate on a strobile-like spike, 2-valved: seeds arilled, pendulous on long cords, berry-like. 52. 75—(magnolia, or beaver-tree.) *S.*

Liriodendron. Calyx 3-leaved; corol 6 or 9-petalled, liliaceous: seeds in a sub-lanceolate samara, imbricate on a strobile-like spike. 52. 75—(tulip-tree, or whitewood.) *S.*

Porcelia. Asimina. Calyx 3-leafed or 3-parted: petals 6, spreading, oblong-ovate; the inner ones smallest: anthers sub-sessile: stigmas sessile, obtuse: berries several, sessile, ovate, obtuse, many-seeded; seed arilled. 52. 76—(custard apple.) *S.*

Hepatica. Calyx 3-leaved, a little distance below the corol, entire: petals 6 to 9: seeds without tails. 26. 61—(liverleaf.) *S.*

Ranunculus. Calyx 5-leaved: petals 5, with claws, and a nectariferous pore or scale on the inside of each: seeds without tails, naked, numerous. 26. 61—(crow-foot.) Some mistake an extra tegument for a capsule. *S.*

Hydropeltis. Brasenia. Calyx 6-leaved, somewhat converging; 3 or 4 inner leaves longest: corol 0: stamens equalling the length of the calyx: capsules oblong, somewhat fleshy, numerous, 2-celled, 1 or 2-seeded. The inner leaves of the calyx are considered as petals. 26. 61—(water-shield.) *S.*

Nelumbium. Cyanus. Calyx 4 or 5-leaved: petals 5 or more: nuts half immersed in a truncate, obconic, very large receptacle, and crowned with the permanent style. 26. 61—(nelumbo.) *S.*

Exotic.

Sempervivum. Calyx 9 to 12-parted: petals 8 to 12: capsules 12, many-seeded; (stamens 16 or 20.) 13. 83—(house-leek.)

Adonis. Calyx 4—5-leaved: petals 5 or more, without nectariferous pores: seeds awnless. 26. 61—(pheasant's eye.)

Southern.

Illicium. Calyx 6-leaved: petals 27, in three series: capsules many disposed in a circle, 2-valved, 1-seeded. Sometimes 6-petalled. 12. 75—(anise tree.)

Annona. Calyx 3-leaved, thickened together at the base, concave, sub-cordate, acutish: petals 6, thickish, inner smaller or none: anthers sub-sessile, at the apex angled, dilated, covering its receptacles: germs united into a sessile berry with the back muricate, scaly or reticulate, pulpy within, having 2 one-seeded cells. 52. 76.

* Zostera.

CLASS XIII. DIDYNAMIA.

Order I. Gymnospermia.

A. *Calyx 5-cleft, with the divisions, or teeth, nearly equal.*

Teucrium. Corol deep-cleft on the upper side, and without an upper lip; lower lip 3-cleft, the middle division rounded: stamens and pistils incurved; stamens exsert through the cleavage on the upper side of the corol. 42. 42—(wood sage, wild germander.) *S.*

Mentha. Corol nearly equal, 4-lobed; broadest division emarginate: stamens erect, distant. 42. 42—(spearmint, peppermint.) *S.*

Isanthus. Calyx somewhat bell-form: corol 5-parted; tube strait,

narrow; divisions ovate equal: stamens nearly equal: stigma linear, recurved. 42. 42—(blue-gentian.)

Hedeoma. Calyx 2-lipped, gibbose at the base; upper lip with 3 lanceolate teeth; lower lip with 2 subulate ones: corol ringent: 2 short stamens barren. 42. 42—(pennyroyal.) *S.*

Cunila. Calyx cylindric, 10-striate, 5-toothed, throat villose: corol ringent: upper lip erect, flat emarginate: 2 of the stamens usually barren and very short; the other two exsert: stigma unequally bifid. 42. 42—(dittany.)

Hyssopus. Corol with the under lip 3-parted, its intermediate divisions sub-crenate: stamens strait, distant. 42. 42.—(hyssop.) *S.*

Nepeta. Calyx dry, striate: corol with a longish tube: under lip with the middle division crenate: throat with a reflected margin: stamens approximate. 42. 42—(catmint.) *S.*

Lamium. Segments of the calyx subulate, spreading: corol with the upper lip entire, vaulted; under lip 2-lobed; throat with a tooth at each margin. 42. 42—(dead nettle.) *S.*

Galeopsis. Calyx awned: corol with the upper lip sub-crenate, vaulted; lower lip unequally 3-lobed, having 2 teeth on its upper side near the margin of the orifice, and opposite to the sinuses dividing the lobes. 42. 42—(Flowering nettle.)

Stachys. Calyx with its divisions awned: corol with the upper lip vaulted; the lower lip 3-lobed; the middle divisions largest, emarginate; the lateral divisions reflexed: stamens reflexed towards the sides after discharging the pollen. 42. 42—(wound-wort, hedge nettle.) *S.*

Verbena. Calyx with one of the teeth truncate: corol funnel-form, with a curved tube; border 5-cleft, nearly equal: seeds 2 or 4, with an extra vanishing tegument: sometimes 2 stamens are barren. 42. 42. —(vervain.) *S.*

Marrubium. Calyx salver-form, rigid, marked with 10 lines: corol with the upper lip 2-cleft, linear, strait. 42. 42—(horehound.) *S.*

Glechoma. Calyx 5-cleft: corol double the length of the calyx; upper lip 2-cleft; lower lip 3-cleft, with the middle segment emarginate; each pair of anthers approaching so as to exhibit the form of a cross. 42. 42—(ground ivy, gill-overground.)

Pycnanthemum. Involucre bract-like, many-leaved; under small heads of flowers: calyx tubular, striate: corol with the upper lip subentire; lower lip 3-cleft; middle segment longer: stamens distant, nearly equal; cells of the anthers parallel. 42. 42—(mountain mint.) *S.*

Exotic.

Leonurus. Calyx 5-angled, 5-toothed: corol with the upper lip erect, villose, flat, entire; lower lip 3-parted; middle division undivided: lobes of the anthers parallel, having shining dots. 42. 42—(mother-wort.) *S.*

Lavandula. Calyx ovate, sub-dentate; bracts under-studded: corol resupinate: stamens in the tube. 42. 42—(lavender.)

Ballota. Calyx salver-form, 5-toothed, 10-striate: corol with the upper lip concave, crenate: seed ovate, 3-sided. 42. 42—(false mother-wort.)

Sautreja. Calyx tubular, striate: corol with divisions nearly equal: stamens distant. 42. 42—(savory.)

MOLUCELLA. Calyx very large, bell or shell-form; margin repand spinose: corol much smaller, in the bottom of the calyx. 42. 42—(shell-flower, molucca balm.)

Southern.

AJUGA. Corol with the upper lip minute and 2-toothed: stamens longer than the upper lip; anthers all reniform, 1-celled. 42.

SYNANDRA. Calyx 4-cleft; segments unequal, subulate, inclined to one side: upper lip of the corol entire and vaulted; lower one unequally 3-lobed; throat inflated, naked: upper pair of anthers cohering, with the adjoining cells empty; filaments downy. 42. 42.

LEUCAS. Calyx 10-striate, 6 to 10-toothed: upper lip a bearded helmet, entire; lower one long, 3-cleft; middle segment largest; lobes of the anthers spreading: stigma shorter than the upper lip. 42. 42.

HYPTIS. Calyx 5-toothed: corol 2-lipped; upper lip 2-lobed, lower one 3-lobed, with the middle lobe calyx-like, involving the stamens and style until it becomes reflexed: stamens declined. 42. 42.

B. *Calyx 2-lipped.*

CLINIPODIUM. Involucre many-bristled, bract-like, under head-form whorls: perianth 2-lipped: corol with the upper lip flat, obcordate, strait. 42. 42—(field thyme.)

ORIGANUM. Calyxes collected into a 4-sided strobile-like cone, with broad intervening bracts: corol with the upper lip erect, flat straight, emarginated: under lip 3-parted, divisions nearly equal. 42. 42—(marjoram.)

DRACOCEPHALUM. Calyx sub-equal, 5-cleft: corol with the throat inflated: the upper lip concave, the middle division of the lower lip roundish, notched, stamens unconnected. 42. 42—(dragon-head.) *S.*

PRUNELLA. Calyx with the upper lip dilated: filaments 2-forked, with an anther on one of the points: stigma 2-cleft. 42. 42—(self-heal, or heal-all.) *S.*

SCUTELLARIA. Calyx with an entire mouth, which is closed with a helmet-form lid after the corol falls out: tube of the corol bent. 42. 42—(scull-cap.) *S.*

TRICHOSTEMA. Calyx resupinate: corol with the upper lip falcate; the under lip 3-parted, with the middle division small, oblong: filaments very long-exsert, incurved or coiled. 42. 42—(blue-curls.) *S.*

PHRYMA.* Calyx cylindric, upper lip longer, 3-cleft; lower lip 2-toothed: corol with the upper lip emarginate: lower lip much larger: seed single. 42. 42—(lopseed.) *S.*

Exotic.

THYMUS. Calyx sub-campanulate, with the throat closed with hairs: corol with the upper lip flat, emarginate; lower lip longer. 42. 42—(thyme.)

*When the seed approaches maturity, the calyx closes upon it which has induced some authors to remove it to the next order. But the Scutellaria presents nearly the same character. Other genera approach it also, in this particular. It is, in my opinion, an unnecessary innovation.

☞ Bottom of last page SATUREJA is spelled wrong.

MELISSA. Calyx dry, flattish above, with the upper lip sub-fastigiate: corol with the upper lip somewhat vaulted, 2-cleft; lower lip with the middle lobe cordate. 42. 42—(balm.)

OCYMUM. Calyx with the upper lip obriculate, the lower one 4-cleft: corol resupinate; one lip 4-cleft, the other undivided: outer filaments sending out a process from the base. 42. 42—(sweet basil.)

Southern.

MACBRIDEA. Calyx top-form, 3-cleft, 2 segmentse large: corol 2-lipped; the upper entire, the under 3-parted: anthers 2-lobed: the lobes spreading, fringed with small spines. 42. 42.

CALAMINTHA. Calyx closed with hairs after flowering: throat of the corol somewhat inflated; upper lip emarginate; lower one 3-parted, middle segment somewhat emarginate or entire. 42. 42.

CERANTHERA. Calyx 2-lipped, the upper lip emarginate, the lower one 2-cleft: upper lip of the corol 2-lobed, the lower one 3-parted: stamens exsert; anthers horizontal, awned at each end. 42. 42.

TULLIA. (1) Calyx with the upper lip 3-toothed, lower one 2-toothed, teeth appendaged: corol 2-lipped, with the upper lip very entire, lower one 3-parted, middle division largest. 42. 42.

"Lycopus, Monarda, Salva, Collinsonia, Linnea."

ORDER II. ANGIOSPERMIA.

A. *Calyx 2-cleft or 2-leaved.*

OBOLARIA. Calyx bract-like: corol 4-cleft, bell-form: capsule 1-celled, 2-valved, many-seeded: stamens from the divisions of the corol nearly equal: stigma 2-cleft or emarginate. 40. 46—(penny-wort.) *S.*

CASTILLEJA. Calyx spathe-form, upper lip 2-cleft, lower one wanting: corol 2-lipped: lower one very short, 3-cleft, with 2 glands between the divisions: capsule 2-celled. 40. 36. *S.*

B. *Calyx 4-cleft.*

SCHWALBEA. Calyx tubular-inflated; upper division small; lower division large, emarginate or 2-toothed: corol ringent, upper lip entire, arched, lower lip 3-lobed: capsule ovate, compressed, 2-celled, 2-valved, with a double partition: seeds many, chaffy. 40. 40—(chaff-seed.) *S.*

EUCHROMA. Calyx inflated, 2 or 4-cleft: corol 2-lipped; upper lip long-linear, embracing the style and stamens: anthers linear, with unequal lobes, cohering so as to form an oblong disk: capsule ovate, compressed, 2-celled: seeds numerous, surrounded with an inflated membrane. 40. 36. *S.*

BARTSIA. Calyx lobed, emarginate, colored: corol less than calyx; upper lip longest, concave entire; lower lip 3-cleft and reflexed: anthers with equal lobes, not cohering: capsule 2-celled: seed angled. 40. 36—(painted cup.)

RHINANTHUS. Calyx inflated: corol ringent; the upper lip mostly compressed; the under lip spread, 3-parted: capsule 2-celled, obtuse, compressed. 40. 36—(yellow coxcomb.)

MELAMPYRUM. Corol with the upper lip compressed, the margin

(1) By M. C. Leavenworth in honor of Dr. W. Tulley, Prof. Botany, &c. in Yale College.

folded back: lower lip grooved, 3-cleft, sub-equal: capsule 2-celled, oblique, dehiscent on one side: seeds 2, cylindric, gibbous, cartilaginous and smooth. 40. 36—(cow-wheat.) *S.*

Southern.

LANTANA. Flowers in a head: calyx obsoletely 4-toothed: border of the corol 4-lobed, unequal, throat open: stamens within the tube: stigma hooked: drupes aggregated; nut 2-celled, even, 2-seeded. 40. 41.

EUPHRASIA. Calyx cylindric: corol 2-lipped; the upper lip 2-cleft; lower lip 3-lobed, with the divisions 2-cleft: lower anthers lobed, spinose. 40. 36—(eye-bright.)

ORTHOCARPUS. Calyx tubular, somewhat 4-cleft: corol 2-lipped, closed; upper lip smaller, compressed; margin inflexed; lower lip concave, obsoletely 3-toothed, unexpanded: lobes of the anthers unequal, spreading: capsule straight-ovate, 2-celled, 2-valved, many-seeded. 40. 36.

C. *Calyx 4 or 5-cleft, or 5-toothed; plant without green herbage.*

OROBANCHE. Calyx 4 or 5-cleft; segments often unequal: corol ringent: capsule ovate, acute, 1-celled, 2-valved: seeds numerous: a gland beneath the base of the germ. 40. 36—(broom rape.) *S.*

EPIPHEGUS. Polygamous. Calyx abbreviated, 5-toothed: corol of the barren flowers ringent, compressed, 4-cleft: lower lip flat; of the fertile flowers minute, 4-toothed, caducous: capsule truncate, oblique, 1-celled, imperfectly two-valved, opening on one side. 40. 36—(beech-drops, cancer root.)

D. *Calyx 5-leaved 5-cleft or 5-parted: plant with green herbage.*

ZAPANIA. Flowers capitate: calyx 5-toothed: corol 5-lobed; stigma head-peltate, oblique: pericarp bladder-like, vanishing, connecting the two seeds. 40. 41—(fog-fruit.) *S.*

AVICENNIA. Calyx 5-parted: corol 2-lipped, the upper lip square: capsule coriaceous, rhomboid, 1-seeded, seed germinating within the capsule. 40. 45.

HERPESTRIS. Calyx unequal, 2-bracted at the base: corol tubular, somewhat 2-lipped: stamens included: capsule 2-valved, 2-celled; partitions parallel with the valves. 40. 37. *S.*

LIMOSELLA. Calyx 5-cleft: corol 4 or 5-lobed, equal; stamens approaching each other by pairs: capsule 1 or 2-celled, 2-valved, many-seeded. 40. 37—(mudwort.)

SCROPHULARIA. Calyx 5-cleft: corol sub-globose, resupinate; lips short, middle division of lower lip reflexed: capsule 2-celled. (Generally a stamen-like organ is attached to the corol.)—Corol dull purplish, green, or brown. 40. 37—(figwort.) *S.*

BIGNONIA. Calyx 5-toothed, cup-form, sub-coriaceous: corol bell-form, 5-lobed, ventricose beneath: capsule silique-like, 2-celled: seed membrane-winged. 40. 40—(trumpet-flower.) *S.*

RUELLIA. Calyx 5-parted, often 2-bracted; corol somewhat bell-form, limb 5-lobed: stamens approaching by pairs: capsule tapering to both ends, toothed, elastically dehiscent: seeds few. 40. 39—(ruel.) *S.*

BUCHNERA. Calyx 5-toothed: corol with a slender tube, and the limb in 5 equal divisions, the lobes cordate: capsule 2-celled. 40. 35—(blue hearts.) *S.*

ANTIRRHINUM. Calyx 5-leaved or deeply 5-parted; the two lower divisions remote; corol personate or ringent, spurred, or with a prominent base; the throat closed with a prominent palate: capsule ovate, 2-valved, dehiscent at the apex, with reflexed teeth. 40. 37—(snapdragon, toad-flax.) *S.*

COLLINSIA. Calyx 5-cleft: corol 2-lipped, throat closed: upper lip 2-cleft; lower one 3-cleft: intermediate segment keeled, bag-like, and covering the declined stamens and style: capsule globose, somewhat 1-celled and 4-valved. Seeds 2 or 3, umbilicate. 40. 37.

CONRADIA. Calyx 5-cleft, foliaceous: corol monopetalous, cylindrical, sub-equal, 5-toothed at the apex, teeth reflexed: stamens 4, scarcely declined, sub-equal, long-exsert: style very long: stigma minute: capsule short-ovate, 2-celled, many-seeded. 40. 37.

GERARDIA. Calyx 5-cleft or 5-toothed: corol sub-campanulate, unequally 5-lobed; segments mostly rounded: capsule 2-celled, dehiscent at the top. 40. 37—(false-foxglove.) *S.*

PEDICULARIS. Calyx ventricose, 5-cleft or obliquely truncate: corol ringent; upper lip arched, emarginate and compressed: capsule 2-celled, mucronate, oblique: seeds numerous, angular, coated. (Leaves many-cleft.) 40. 36—(lousewort, high heal-all.) *S.*

MIMULUS. Calyx prismatic, 5-toothed: corol ringent: upper lip folded back upon its sides, lower lip with a prominent palate: stigma thick, 2-cleft: capsule 2-celled, many-seeded; seeds minute. 40. 37—(monkey flower.) *S.*

CHELONE. Calyx 5 cleft or 5-leaved, 3-bracted: corol ringent, inflated: the upper lip emarginate-obtuse, under lip slightly 3-cleft; the rudiment of a smooth filament between, and shorter than the two tallest stamens; anthers woolly: capsule 2-celled, 2-valved: seeds with membranaceous margins. 40. 37—(snake-head.) *S.*

PENTSTEMON. Calyx 5-cleft or 5-leaved: corol sub-ringent, inflated; the rudiment of a bearded filament bettween, and longer than the two tallest stamens: anthers smooth: capsule 2-celled, 2-valved, ovate; seeds numerous, angular. (Taken from the last genus.) 40. 37—(beard tongue.) *S.*

MARTYNIA. Calyx 5-cleft: corol ringent, almost bell-form: capsule woody and barked, with a hooked peak, 4-celled, 2-valved. 40. 40—(unicorn-plant.) *S.*

Exotic.

DIGITALIS. Calyx 5-parted: corol bell-form, ventricose, 5-cleft: stigma simple or bilamellate: capsule ovate, 2-celled.—(Flowers racemed.) 40. 37—(foxglove.)

Southern.

CAPRARIA. Calyx 5-parted: corol somewhat bell-form, 5-cleft, nearly equal: capsule 2-valved, 2-celled, many-seeded. 40. 37.

SEYMERIA. Calyx 5-parted nearly to the base: corol bell-wheel-form, almost equally 5-lobed: stamens sub-equal, near the throat: anthers oblong, naked: style declined: capsule inflated, ovate, acute, 2-celled, 2-valved, opening at the top. 40. 37.

SESAMUM. Calyx 5-parted: corol bell-form, 5-cleft, with the lower lobe largest: stamens with the rudiment of a fifth: stigma lanceolate: capsule obtusely 4-angled, 4-celled. 40. 40—(oily grain.)

*Catalpa, Gratiola, Elytraria.

CLASS XIV. TETRADYNAMIA.

Order I. Siliculosa.

A. Pleurorhiza.* *Seed with the radicle on its side. Cotyledons flat, accumbent: seed compressed, often margined.*

Lunaria. Silicle entire, oval, flat-compressed, pedicelled; valves equalling the partition, parrallel, flat: calyx consists of colored sack-like leafets. 39. 63—(honesty, or satin-flower.)

Vesicaria. Silicle globose, inflated, with hemispheric valves: seeds more than 8: petals entire.

Alyssum. Silicle orbicular or oval, with valves flat or convex in the center: seeds 2 to 4 to each cell: calyx equal at the base: petals entire: some of the stamens toothed.

Draba. Silicle oval-oblong, many-seeded; valves flattish, parrallel to the partition; seeds not margined: filaments without teeth: style none. Cotyledons accumbent.* 39. 63—(whitlow-grass.) *S.*

Erophila. Silicle oval or oblong, valves flat: seeds many, immarginate: calyx equal: petals 2-parted: stamens edentulate. 39. 63. Flowers white.

Cochlearia. Silicle thick, rugose, many-seeded, 2-valved; valves gibbous, obtuse: partition nearly parallel to the valves. 39. 63—(horse-radish, water-radish.)

Thlaspi. Silicle emarginate at the apex, valves keel-form, winged on the back: cells two, many-seeded: petals equal: calyx equal at the base. 39. 63. Flowers white.

Hutchinsia. Silicle oval, valves keel-form, wingless; cells 2-seeded, rarely more: calyx equal: petals equal. 39. 63.

Iberis. Corol irregular, the two exterior petals longest: silicle emarginate, many-seeded. 39. 63—(candy-tuft.)

Cakile. Silicle 2-jointed, compressed, upper joint ensiform or ovate: seed single in each cell, upper one erect, lower one pendulous. 39. 63.

B. Notorhiza.† *Seed with the radicle never on the side; generally on the back. Cotyledons flat, incumbent: seed ovate, not margined.*

Camelina. Silicle obovate or sub-globose, valves ventricose dehiscent with part of the style; cells many-seeded: style filiform: seed oblong immarginate. 39. 63.

Platypetalum. Silicle oval, many-seeded; valves convex: styles very short: calyx a little spread: laminae of the petals dilated. 39. 63.

Draba. Calyx equal at the base, lax: petals entire, unguiculate, equal: filaments equal not toothed: style very short, stigma capitate: silicle lanceolate, compressed, 1-celled (having no partition) valves flattish, marked at the middle nerve: seeds many, with the umbilical cord elongated. 39. 63.

Platyspermum. Silicle oval, compressed at the back, flat, stigma sessile: seeds few with broad margins. 39. 63. Scapes numerous, 1-flowered.

Lepidium. Silicle ovate or sub-cordate; valves keeled or rarely ventricose, dehiscent, cells 1-seeded; seeds somewhat 3-sided or compressed. (Cotyledons rarely accumbent.) 39. 63.

* Gr. *pleura* (side) *'riza* (root.) † Gr. *notos* (back) *'riza* (root.)

CAPSELLA. [Thlaspi bursa-pastoris.] Silicle wedge-triangular, valves keel-form not winged; cells many-seeded. 39. 63—(shepherd purse.)

THYSANOCARPUS. Silicle obovate, plano-convex, broad-winged at both margins, emarginate at the apex, 1-celled, one-seeded: seed broad-obovate, pendulous. 39. 63. Flowers small, white.

ISATIS. Silicle compressed, oblong, ligulate, valveless, 1-seeded: partition like lattice work. 39. 63—(woad.)

Southern.

CORONOPUS. Silicle reniform, compressed, wrinkled; cells valveless, 1-seeded. 39. 63.

MYAGRUM. Silicle sub-erose, valveless: cells fertile and empty, alternately superimposed on each other: styles permanent. 39. 63.

BUNIAS. Flower minute. Silicle sub-lanceolate, 4-angled, with two separable, 1-seeded, valveless articulations; lower one with a depressed line, upper one furnished with an emarginate tooth on each side, and an elevated line; seed erect in the upper joint, and pendulous or abortive in the lower one. 39. 63—(sea-rocket.) *S.*

SUBULARIA. Silicle entire, ovate: valves ovate, concave, (convex without:) stigma sub-sessile: seed linear, 2-plaited. Cotyledons incumbent. 39. 63.

ORDER II. SILIQUOSA.

A. PLEURORHIZA. *Seed with the radical on its side. Cotyledon flat, accumbent: seed compressed, often margined.*

CHEIRANTHUS. Calyx closed, two of the leafets gibbous at the base: petals dilated: silique, when young, with a glandular tooth each side: stigma 2-lobed: seed flat, sometimes margined. 39. 63—(stock-judy-flower, wall-flower.) *S.*

NASTURTIUM. Silique teretish, abbreviated or declined: stigma somewhat 2-lobed: calyx equal at the base, spreading: seeds small, irregularly in two series, without margins.

BARBAREA. Silique 4-sided, (and 2-edged) valves without any process at the apex, concave-keeled; seeds arranged in a single series: calyx equal at the base. 39. 63.

TURRITIS. Silique linear, valves flat; seeds in each cell in a double series: calyx converging erect: corol erect. 39. 63—(tower mustard.)

ARABIS. Silique linear; valves flat, 1-nerved in the middle: seeds in each cell in one series, oval or orbicular, compressed: cotyledons flat. 39. 63—(wall-cress.)

MACROPODIUM. Silique linear, pedicelled, valves flat, one-nerved in the middle: seeds orbicular, flat compressed, surrounded with very short wings. 39. 63.

CARDAMINE. Silique linear; valves flat nerveless, often bursting elastically with revolute valves: seed ovate, without margin, having a slender umbilical funicule. 39. 63—(american water-cress.)

DENTARIA. Calyx longitudinally converging: silique lanceolate, bursting elastically, with flat, nerveless, revolute valves; the partition thick and fungus-like: stigma emarginate; seeds in a single series, ovate, not margined. Funicule dilated: (Roots sharp-tasted, fleshy, with tooth-like processes.) 39. 63—(tooth-root, trickle-root.) *S.*

PARRYA. Silique broad-linear, valves more or less distinctly veined,

flat; seeds somewhat in two series, cuticle of the teste lax, margin broad: umbilical funicule adnate to the partition above: lobes of the stigma approximate. 39. 63.

Streptanthus. Calyx erect, colored: petals dilated; having twisted, channelled claws: glands none: stamens with filaments subulate, and thickened at the base: silique very long, angled, compressed: seeds in one series, flat, margined: cotyledons accumbent. 39. 63.

B. Notorhiza. *Seed with the radicle never on the side, generally on the back. Cotyledons flat, incumbent; seed ovate, not margined.* 39. 63.

Hesperis. Calyx closed, furrowed at the base, shorter than the claws of the petals: petals bent obliquely, linear or obovate: silique 4-sided, 2-edged, or sub-terete: seeds not margined: stigmas forked, with converging apexes. Cotyledons flat. 39. 63—(rocket.)

Sisymbrium. Silique teretish above the prominence, sessile: stigmas 2, sub-distinct or connate in a head: calyx equal at the base: seed ovate or oblong: cotyledons flat, sometimes oblique: stamens toothless. 39. 63.

Erysimum. Silique 4-cornered: calyx closed: cotyledons flat, oblong. 39. 63.

Braya. Silique short, terete, torulose, terminated by the style: valves sub-semicylindric: stigma flattish: partitions split in the middle: seeds under six in each cell: calyx equal at the base, divisions erect. 39. 63.

Stanleya. Silique teretish above the prominence pedicelled: seeds oblong, teretish; calyx spreading. 39. 63.

Warea. Silique 2-celled, stiped, flat, with a seed-bearing margin both sides: seed flattish, striate: calyx deflected, caducous, colored: petals with long claws, spreading. 39. 63.

Brassica. Calyx erect, converging: partition extending beyond the valves of the silique: seed globose: glands between the short stamens and pistil, and between the long stamens and calyx. 39. 63—(cabbage, turnip.)

Sinapis. Calyx spreading: corol with strait claws: glands between the short stamens and pistil, and between the long stamens and calyx: partition extending beyond the valves of the silique, ensiform: seeds in a single series. Cotyledons conduplicate. 39. 63—(mustard.)

Raphanus. Calyx closed, setose: silique torose, terete, not opening by valves, 1 or 2-celled: glands between the short stamens and pistil, and between the long stamens and calyx. Cotyledons conduplicate. 39. 63—(radish.)

CLASS XV. MONADELPHIA.

Order III. Triandria.

Sisyrinchium. Spathe 2-leaved: perianth 0: corol superior, 6-cleft or 6-petalled, tubular: style 1: stigma 3-cleft: capsule 3-celled. 6. 18—(blue-eyed grass.) *S.*

*Pistia.

Order V. Pentandria.

Passiflora. Calyx 5-parted, colored: corol 5-petalled, on the calyx:

nectary, a triple filamentous; crown within the petals: gourd-like berry, pedicelled. 34. 97—(passion-flower.) *S.*

Exotic.

Erodium. Calyx 5-leaved: corol 5-petalled: nectariferous scales 5, alternating with the filaments: arils 5, 1-seeded. awned, beaked at the base of the receptacle; awn spiral, bearded within. (Taken from the geranium.) 14. 73—(stork's bill.)

Southern.

Philoxerus. Calyx 5-parted: corol none: stamens united at the base into a small entire cup, shorter than the germ: anthers 1-celled: stigmas 2: bladder-like capsule membranaceous, 1-seeded, valveless. 14. 30.

Achyranthes. Calyx double, membranaceous, permanent, outer 3-leaved, inner 5-leaved, unequal: stamens standing on the nectary, with segments between them: seed one, covered by the converging calyx. 14. 39.

Oplotheca. Calyx double, outer 2-leaved, scarious convolute, truncate; shorter than the inner—inner 1-leafed, muricate, somewhat 5-cleft, with a dense down: corol none: nectary cylindric, 5-toothed: bearing the stamens: stigma simple, capitate, hairy: bladder-like capsule 1-seeded, inclosed in the calyx. 14. 30.

Malachodendron. Calyx with one bract: petals 5 or 6 with crenulate limbs: germ 5-furrowed: styles 5, free at the base; stigmas capitate: capsules 5, united, 1-seeded.

*Anagallis, Lysimacha, Linum, Petalostemon.

Order VII. Heptandria.

Exotic.

Pelargonium. Calyx 5-parted, upper divisions broader, ending in a capillary nectariferous tube: corol 5-petalled, irrgular; the two upper petals usually broader, with colored veins: filaments 10, three of them usually without anthers: arils 5, each 1-seeded, awned; some of the awns spiral. 14. 93—(stork geranium.)

Order VIII. Octandria.

Southern.

Pistia. Spathe tubular-hooded, strap-like; corol none: filaments lateral; anthers 3 to 8: style 1: capsule 1-celled, many-seeded. 14. 7.

*Polygala, Cardiospermum.

Order X. Decandria.

Geranium. Calyx 5-leaved: corol 5-petalled, regular: nectariferous glands 5, adhering to the base of the 5 alternating long filaments: arils 5 1-seeded, awned, beaked at the elongated top of the receptacle: awn naked or smooth within, strait. 14. 73—(cranebill, false crowfoot, herb-robert.) *S.*

Southern.

Acacia. Mimosa. Polygamous. Calyx tubular, 5-toothed: petals 5; stamens 5 to 10, exsert: pod 1-celled, 2-valved. 33. 93.

DARLINGTONIA. Flowers perfect: petals 5, distinct; stamens 5 to 10, sub-exsert: legume bivalve, juiceless, small-seeded, lanceolate falcate: calyx bell-form, 5 to 7-toothed. 33. 93.

SCHRANKIA. MIMOSA. Polygamous. Calyx tubular, 5-toothed: petals 5: stamens 8 to 10, exsert: pod 4-valved. 33. 93.

*Oxalis

ORDER XII. POLYANDRIA.

SIDA. Calyx simple, angular, 5-cleft; style many-parted: capsules many, arranged circularly, 1-celled, 1 or 3-seeded. (Pedicel articulated under the apex.) 37. 74—(indian mallows.) *S.*

ALTHÆA. Calyx double; outer one 6 or 9-cleft: capsules many, arranged circularly, 1-seeded. 37. 74—(hollyhock.)

MALVA. Calyx double, outer one 3-leaved, inner one 5-cleft: capsules many, arranged circularly, 1-celled, 1-seeded. 37. 74—(mallows.) *S.*

MALVAVISCUS. Calyx surrounded by a many-leaved involucre: petals erect, convolute: stigmas 10: germs 5, 1-seeded berries, sometimes subdistinct and often united in 5-celled fruit. 37. 74.

HIBISCUS. Calyx double, outer one many-leaved; inner one about 5-cleft: stigmas 5: capsule 5 or 10-celled, many-seeded. 37. 74—(marsh mallows.) *S.*

Exotic.

LAVATERA. Calyx double, outer one 3-cleft: capsules many, many-seeded. 37. 74—(tree mallows.)

GOSSYPIUM. Calyx double, outer one 3-cleft: capsule 4-celled: seeds involved in wool. 37. 74—(cotton.)

Southern.

MALOPE. Calyx double, outer 3-leaved: capsules 1-seeded, irregularly aggregated. 37. 74.

STUARTIA. Calyx 5-parted: petals 5: stigma somewhat 5-lobed, capitate: capsule 5-celled, 5-valved; cells 1 or 2-seeded: seeds ovate, bony. 37. 70.

HOPEA. Calyx 5-cleft, superior: petals 5: stamens numerous, united in 5 groups: style 1: drupe 3-celled, with 2 of them often empty. 37. 71—(yellow leaf.)

NUTTALLIA. CALLIRHOE. Calyx simple, 5-cleft: capsules numerous, 1-seeded, united in a ring. 37. 74.

STYRAX. Calyx bell-form, generally 5-toothed, inferior: corol 5 to 7-parted, on the calyx; drupe? coriaceous, with 1 or 2, 1-seeded nuts: stamens 6 to 16, on the throat of the corol, united at the base: anthers oblong, linear. 37. 71—(storax tree.)

HALESIA. Calyx 4-toothed, superior: corol 4-cleft: nut covered with bark, 4-sided 2 or all the angles winged; 2 to 4-celled, 2 to 4-seeded. 37. 71—(snowdrop tree.)

GORDONIA. Calyx simple, 5-leaved: connate at the base; style 5 sided: stigmas 5: capsule 5-celled, 5-valved: receptacle columnar: cells 2-seeded: seeds winged. 37. 70.

*Pinus.

CLASS XVI. DIADELPHIA.

ORDER V. PENTANDRIA, TO ORDER VIII. OCTANDRIA, OR PENTOCTANDRIA.

CORYDALIS. DICLYTRA. Calyx 2-leaved: corol ringent, 1 or 2-spurred or gibbose at the base: filaments 2, membranaceous, each with 3 anthers: capsule silique-like, 2-valved, compressed, many-seeded. In some species the stamens are separate, with broad membranaceous bases. 24. 93—(colic-weed.) *S.*

FUMARIA. Calyx 2-leaved, caducous; corol irregular: spurred or gibbous at the base of one petal: filaments 2, each with 3 anthers: capsule or silicle drupe-like, 1-celled, 1-seeded, not opening by valves: seeds affixed to the side of the cell. 24. 93—(fumitory.) *S.*

POLYGALA. Calyx 5-leaved, permanent, unequal: 2 of the leafets wing-like, larger, colored: corol irregular, (or rather, calyx 3-leaved, corol imperfectly papilionaceous:) capsule obcordate, 2-celled, 2-valved. Keel of the corol sometimes appendaged: seeds hairy. 33. 93—(snake-root, milk-wort, low century, mountain flax.) *S.*

Southern.

PETALOSTEMON. Petals 5, nearly equal, 4 of them alternating with the stamens, and uniting with them in a cleft tube: legume 1-seeded, included in the calyx. 32. 93.

*Gleditschia.

ORDER X. DECANDRIA.

A. *Legume without transverse divisions or partitions; seeds numerous.*

(Stigma pubescent.)

PISUM. Calyx with the divisions leaf-like, about equal: banner protruding 2 folds: style compressed, carinate, villose above: legume without down at the suture. 32. 93—(pea.)

LATHYRUS. Calyx with the two upper divisions shorter: style flat, villose above, broader towards the top. (Stem mostly winged, leafets 2 or more, terminated by a divided tendril.) 32. 93—(sweet pea.) *S.*

VICIA. Calyx emarginate above, 2-toothed; 3 strait long teeth below: banner emarginate; style bearded transversely on the lower side beneath the stigma. 32. 93—(vetch.) *S.*

ERVUM. Calyx 5-parted: divisions linear, acute, about equalling the corol: stigma capitate, hairy on all sides, (Torrey); glabrous, (Persoon:) legume oblong, 2 to 4-seeded. 32. 93—(creeping vetch.)

Southern.

OROBUS. Styles linear: corol long: calyx obtuse at the base: upper segments deeper and generally shorter. 32. 93—(bitter vetch.)

PHACA. Keel obtuse: style beardless: stigma capitate: legume 1-celled, somewhat turgid; upper suture swollen and seed-bearing within. 32. 93.

(Stigma not pubescent.)

PHASEOLUS. Stamens nine connected and one separate; legume-

many-seeded, not articulated: stigma not hairy; cotyledons thick, which are changed into succulent leaves in germinating.

1. Sub Genus. Phaseolus (Euphaseolus.) Calyx 2-lipped, upper one 2-toothed, lower one 3-parted: keel with the stamens and style spirally twisted: legume compressed.

2. S. G. Strophostyles. (1) Calyx 2-lipped, upper one 2-toothed, lower one 3-parted: keel with the stamens and pistils spirally twisted: legume terete.

3. S. G. Amphicarpa. (1) Calyx 4-toothed, teeth equal, sub-obtuse: style filiform, stigma capitate: germ with its base sheathed.

4. S. G. Rhynchosia. (1) Calyx 5-cleft, somewhat 2-lipped: the separate filament geniculate at the base: style filiform: legume compressed, 2-seeded.

5. S. G. Wistaria. (1) Calyx somewhat 2-lipped; upper lip with 2 short teeth, lower one in 3 subulate lobes: keel bicuspidate: a tubular nectary surrounds the stipe of the germ.

6. S. G. Apios. (1) Calyx with 4 obsolete teeth; one acute, elongated under the falcate keel, which bend back the top of the banner; stipe of the germ sheathed at the base.

Galactia. Calyx 4-toothed, 2-bracted: petals all oblong: banner broader, incumbent: anthers oblong: stigma obtuse: germ on a naked stipe: legume terete: seeds many, roundish. 32. 93—(milk way plant.) *S.*

Vexillaria. Corol resupinate; banner very large, spreading, overshadowing the wings: calyx bell-form or tubular, 5-toothed: legume linear, very long, acuminate. 32. 93—(butterfly-weed.) *S.*

Robinia. Calyx small, bell-form, 4-cleft, upper division 2-parted: banner large, reflexed, roundish: legume compressed, elongated, many-seeded: seeds compressed, small. 32. 93—(locust-tree.) *S.*

Astragalus. Calyx 5-toothed: keel of the corol obtuse: legume with a longitudinal half-breadth partition, attached to one edge, incurved at the suture below. 32. 93—(milk vetch.) *S.*

Tephrosia. (Galega.) Calyx without bracts, sub-equal, 5-toothed: banner of the corol large, roundish, silky or pubescent entriæ, reflex-spreading; wings keeled, obtuse, adhering: stamens variously connected, monadelphia or diadelphia: style filiform, stigma terminal: legume often sessile, flat-compressed, linear, many-seeded: seeds compressed. 32. 93.—(goat's rue.)

Medicago. The keel deflected from the direction of the banner; legume compressed, spiral. 32. 93—(lucerene clover, medick.) *S.*

Hosackia. Bentham. Calyx bell-form, 5-cleft: the spreading wings of the corol almost equalling the banner; keel beaked: style filiform; stigma capitate: legume cylindric or sub-compressed, straight, smooth.

Exotic.

Colutea. Calyx 5-cleft with the keel obtuse: style bearded on its back through its whole length: legume inflated, opening on the upper suture at the base. 32. 93—(bladder senna, bush locust.)

Southern.

Indigofera. Calyx spreading: keel with a subulate spur both sides; legume linear, small, terete or quadrangular. 32. 93—(indigo.)

(1) Glycine, L.

GLYCYRRHIZA. LIQUIRITIA. Calyx tubular, equal, 5-parted, gibbous at the base: banner erect, reflexed at the sides, including the other petals: wings spreading: keel 2-cleft: legume oblong, sub-ovate, compressed, generally hisped, 2 to 6-seeded. (Flowers racemed.) 32. 93—(liquorice.)

OXYTROPIS. Keel terminating above in a subulate appendage: legume with a longitudinal half breadth partition, attached to one edge; the upper suture inflexed. 32. 93.

TRIGONELLA. Banner and wings sub-equal, spreading, resembling a 3-petalled corol: legume often curved, compressed. 32. 93—(fenugreek.)

LUPINASTER. Calyx bell-form, 5-toothed: teeth setaceous, one under the keel: stigma hooked: legume terete, without joints. 32. 93.

B. *Legume without transverse divisions or partitions; seeds few, or single.*

MELILOTUS. Flowers racemed: calyx tubular, 5-toothed: keel simple, shorter than the wings and banner: legume rugose, longer than the calyx, or about as long. (Taken from the trifolium.) 32. 93—(meliot clover.) *S.*

TRIFOLIUM. Flowers sub-capitate: legume included in the calyx, not opening by valves, 1 to 4-seeded. (Leaves always ternate.) 32. 93—(clover.) *S.*

Southern.

DOLICHOS. Banner with 2 oblong parallel callous processes at the base, compressing the wings beneath them. 32. 93—(cowhage.)

DALEA. Calyx half 5-cleft: corol partly papilionaceous: wings and keel adnate to the undivided column of stamens: legume 1-seeded, included in the calyx. 32. 93.

PSORALEA. Calyx 5-cleft or 5-toothed; lower segments mostly elongated: legume the length of the calyx, 1-seeded, somewhat beaked, valveless. 32. 93.

C. *Fruit or loment in several joints, or in a single-seeded piece.*

HEDYSARUM. Calyx 5-cleft: keel of corol transversely obtuse: loment many-jointed; joints 1-seeded, truncate, compressed, generally hispid. Plants mostly with ternate leaves. 32. 93—(bush clover.) *S.*

LESPEDEZA. Calyx 5-parted, 2-bracted; divisions nearly equal: keel of the corol transversely obtuse: legume lens-form, unarmed, 1-seeded. (Leaves always ternate. Taken from the hedysarum.) 32. 93—(bush clover.) *S.*

AESCHYNOMENE. Calyx 2-lipped, lips toothed: stamens united in two equal parcels: loment compressed, one suture strait, the other lobed; joints truncate, 1-seeded. 32. 93—(false sensitive plant.) *S.*

STYLOSANTHES. Calyx tubular, very long, bearing the corol which originates higher than the top of the germ: loment one or two-jointed, hooked. 39. 93—(pencil flower.) *S.*

Exotic.

CORONILLA. Calyx 2-lipped: petals with claws: loment tereteish, jointed: flowers in umbels: seeds generally cylyndric. 32. 93—(coronilla.)

CICER. Calyx 5-parted, of the length of the corol, 4 upper divisions

resting on the banner: legume turgid, 2-seeded; seeds gibbose, mucronate. 32. 93—(chick-pea.)

Southern.

ZORNIA. Calyx inferior, bell-form, 2-lipped: banner cordate, revolute: anthers 5 oblong and 5 globose: loment jointed, hispid. 32. 93.

SESBANIA. *Calyx 5-toothed: legume elongated (terete or linear) divided into many cells (or loment joints) by transverse partitions. 32. 93.

D. *Stamens united in one set.*

AMORPHA. Calyx somewhat bell-form, 4 or 5-cleft: banner ovate, concave: wings and keel 0: legume 1 or 2-seeded, falcate. 32. 93—(false-indigo.) *S.*

LUPINUS. Calyx 2-lipped: anthers 5 oblong and 5 roundish: legume coriaceous, torulose. 32. 93—(lupine.) *S.*

CROTALARIA. Corol with the banner cordate, large; keel acuminate, the membrane formed by the united filament, has a fissure on the back: style curved: legume pedicelled, turgid. 32. 93—(rattle box.) *S.*

GENISTA. Calyx 2-lipped, 5-toothed, 2 upper teeth very short: banner oblong, reflexed back from the pistil and stamens. 32. 93—(kneed-grass, dyer's broom.)

Exotic.

SPARTIUM. Calyx extended downwards: keel generally pendant: filaments adhering to the germ: stigma villose lengthwise on the upper side: legume oblong, 1 or many-seeded. 32. 93—(Spanish broom.)

ULEX. Calyx 2-leaved, 2-bracted: stamens all united: legume scarcely longer than the calyx, spinose. 32. 93—(furze.)

ARACHIS. Calyx 2-lipped: corol upside down: legume gibbous, torulose, veiny, coriaceous. 32. 93—(pea-nut.)

Southern.

ERYTHRINA. Calyx somewhat 2-lipped, various: banner long-lanceolate: legume torulose, many-seeded. 32. 93—(corol tree.)

*Baptisia, Cercis, Virgilia, Cassia.

CLASS XVII. SYNGENESIA.

ORDER 1. POLYGAMIA AEQUALIS.

A. *Florets ligulate.*

CICHORIUM. Calyx calycled: egret plumose, sessile, unequal: (Torrey;) many-leaved, chaffy: (Persoon;) receptacle somewhat chaffy. 49. 53—(succory, or endive.)

APARGIA. Calyx imbricate: receptacle naked, punctate: egret plumose, sessile, unequal. (Taken from the Leontodon. 49. 53—(false hawk-weed.)

LAPSANA. Involucre sub-cylindric, scaly from the few leaves at the base: receptacle naked: egret 0: the stony fruit oblong, tapering at the base: egret none. 49. 53.

LEONTODON. Calyx double, imbricate, with flexible leaflets: receptacle naked: egret stiped. 49. 53—(dandelion.) *S.*

PRENANTHES. Florets from 5 to 20, in a simple series, (or in one circular row:) calyx calycled: receptacle naked: egret simple; sub-sessile. 49. 53—(white lettuce.) *S.*

LACTUCA. Calyx imbricate, cylindric, with the margin of the scales membranaceous: receptacle naked: egret simple, stiped: seed smooth. 49. 53—(lettuce.) *S.* Flowers mostly nodding.

NABALUS. Flowers nodding: calyx cylindrical, 5 to 12-flowered, with erect scales in one series which bear small scales from the base. 49. 53.

LYGODESMIA. Calyx 5-leaved, tubulated; furnished from the base with many very short imbricate scales; leafets ligulate keeled, scarious at the margin: receptacle scrobiculate: florets 5: anthers 2-toothed at the base: bony seed linear, compressed, furrowed, simple at the apex: egret capillary; rays in various order, tooth-scabrous or plumose. 49. 53.

SONCHUS. Calyx imbricate, swelling at the base: egret pilose, sessile: receptacle naked. 49. 53—(swine thistle.) *S.*

HIERACIUM. Calyx imbricate, ovate: egret simple, sessile: receptacle naked, punctate, or sub-pilose. (From white becoming yellowish.) 49. 53—(hawk-weed.) *S.*

CREPIS. Calyx calycled, scales laxish: receptacle naked: egret pilose, sub-stiped. Beyond R. M. 49. 53.

KRIGIA. Calyx simple, many-leaved: receptacle naked: egret 5 to 8 membranous leaves, with 5 to 24 scabrous, alternating bristles: receptacle naked. 49. 53—(dwarf dandelion.) *S.*

Exotic.

TRAGOPOGON. Calyx simple, many-leaved: receptacle naked: egret plumose and stiped. 49. 53—(goat's-beard, vegetable oyster.)

Southern.

BORKHAUSIA. Calyx calycled, becoming rib-furrowed, outer scales of the outer calyx loose: receptacle naked: egret stiped, pilose. 49. 53.

TROXIMON. Calyx oblong, conic, many-leaved: leafets unequal, imbricate: receptacle naked, puncticulate: egret sessile, pilose. 49. 53.

APOGON. Calyx 8-leaved, in a double series: receptacle naked: egret none. 49. 53.

B. *Florets tubulous; flower capitate.*

ARCTIUM. Calyx globose, with scales hooked at the apex: egret chaff-bristly: receptacle chaffy. 49. 54—(burdock.) *S.*

ONOPORDON. Calyx imbricate, with sharp mucronate spreading scales: egret pilose, scabrous, caducous: receptacle alveolate: seeds transversely sulcate. 49. 54—(cotton thistle.)

CNICUS. Calyx swelling, imbricate, with prickly scales: receptacle villose: egret caducous, plumose. 49. 54—(thistle.) *S.*

CARDUUS. Calyx ovate, imbricate with prickly scales: receptacle villose: egret pilose. 49. 54—(comb-tooth thistle.)

SAUSSUREA. Calyx sub-cylindric, scales imbricate, beardless: receptacle setose or chaffy: egret in two series; outer series short, filiform; inner long and plumose: anthers cordate sub-intire: bony seed glabrous. 49. 54.

PERDICIUM. Egret in one series longer than the flower, fulvous, scabrous: limb of the corol not distinct from the tube: calyx leaves in many series, lax; inner leafets membranaceous entire, outer ones foliaceous spine-toothed. 49. 54.

LIATRIS. Calyx imbricate, oblong: anthers entire at the base: seeds hairy, obconic: egret permanent, plumose, colored: receptacle naked: (flowers purple.) 49. 55—(gay feather.) *S.*

VERNONIA. Calyx imbricate, ovate: egret double, exterior chaffy and short, interior capillary: receptacle naked: stigma 2-cleft, shortish. 49. 55—(flat-top.) *S.*

Exotic.

CARTHAMUS. Calyx ovate, imbricate with scales, ovatish-leafy at the apex: egret chaff-hairy or none: receptacle chaff-bristly. 49. 54—(false saffron.)

CYNARA. Receptacle bristly: calyx dilated, imbricate, scales with fleshy bases, emarginate and pointed: egret plumose, sessile. 49. 54—(garden artichoke.)

Southern.

STOKESIA. Calyx foliaceous, sub-imbricate: florets of the ray funnel-form and irregular: receptacle naked: egret 4-bristled. 49. 55.

STEVIA. Calyx cylindric; from a simple series of leafets: receptacle naked: egret chaff-bristled. 49. 55.

BRICKELLIA. Calyx many-leaved, imbricate: receptacle naked, dotted: egret hairy or scabrous: seed nearly glabrous, 10-streaked. 49. 54.

C. *Florets tubulous; flower discoid.*

KUHNIA. Calyx imbricate, cylindrical: egret plumose, sessile: receptacle naked: seed hairy, finely striated. 49. 55—(false boneset.) *S.*

EUPATORIUM. Calyx imbricated (rarely simple) oblong: style long, cloven half way down: egret pilose, scabrous, or rough papillose: receptacle naked: seed smooth and glandular, 5-striate. 49. 55—(boneset, thorough-wort, joe-pye.) *S.*

MIKANIA. Calyx 4 or 6-leaved, equal, 4 to 6-flowered; receptacle naked: egret pilose. 49. 55—(climing boneset.) *S.*

CHRYSOCOMA. Calyx imbricate, oblong or hemispheric: style scarcely exsert: receptacle naked: egret pilose, scabrous: seed hairy. 49. 55—(golden locks.) *S.*

CACALIA. Calyx cylindric, oblong, somewhat calycled or scaly at the base: receptacle naked: egret pilose. (Leaves mostly succulent.) 49. 55—(wild caraway.) *S.*

SPARGANOPHORUS. Calyx sub-globose, imbricate, with unequal scales recurve-spreading at the tips: receptacle naked: seed with the cup-like crown sub-cartilaginous, shining. 49. 55—(crown-cup.) *S.*

HYMENOPAPPUS. Calyx many-leaved, spreading; leafets sub-oval, colored: receptacle naked: egret chaffy, many-leaved (5 to 81) segments very short, obtuse, awnless. 49. 55.

POLYPTERIS. Calyx many-leaved, spreading: leafets sub-oval, colored: receptacle naked: egret chaffy, about 12-valved; valves rigid and cuspidate, the length of the seed. 49. 55.

MELANANTHERA. Calyx imbricate: leafets ovate, close-pressed, subequal: receptacle chaffy; scales keeled, the lower part embracing the florets: egret consisting of 4 or 5 unequal, unarmed awns. 49. 55.

MARSHALLIA. Calyx imbricate; scales sub-lanceolate, incumbent: receptacle chaffy: egret 5, membranaceous, acuminate, nerveless scales. 49. 55.

SANTOLINA. Calyx imbricate, hemispherical; scales keeled, having scarious points: receptacle chaffy: egret none. 49. 55.

ORDER II. POLYGAMIA SUPERFLUA.

A. *Flowers discoid; the ray-florets being obsolete.*

TANACETUM. Calyx imbricate, hemispheric: scales acuminate: rays obsolete, 3-cleft: egret somewhat marginal: receptacle naked. (Flowers corymbed.) 49. 55—(tansy.)

OMALANTHUS. Heads various in stamens and pistils in flowers surrounding in one series: in the rest perfect and fertile: bony seed wingless, 4-cornered: egret crowning and repand: corols of staminate and perfect flowers glabrous, flat-compressed, 2-winged, 3-crenate: rachis without bracts.

ARTEMISIA. Calyx imbricate, ovate, with scales rounded, converging: ray-florets subulate: egret 0: receptacle somewhat villose, or nakedish. (Flowers mostly rounded.) 49. 55—(wormwood, southern-wood.) *S.*

BACCHARIS. Calyx-scales ovate, sub-coriaceous, imbricate, cylindric, bell-form or ovate: pistillate and perfect florets intermixed: receptacle naked: egret pilose. (Sometimes the flowers are diœcious.) 49. 55—groundsel-tree.) *S.*

CONYZA. Calyx imbricate, with scales sub-linear-ovate, or hemispheric and sub-scarious: egret simple, capillary: receptacle naked: florets of the ray with a 3-cleft border, not composing a ray in appearance. 49. 55—(plowman's-wort.) *S.*

GNAPHALIUM. Calyx imbricate, with the marginal scales rounded, scarious, shortish, glossy, colored: receptacle naked: egret pilose or plumose, scabrous: florets of the ray subulate, of the disk entire. Sometimes all the florets are perfect. 49. 55—(life-everlasting.) *S.*

ANTENNARIA. Heads dioecious or sub-dioecious: rachis wholly without bracts: egret in one series, in the staminate clavate at the apex: style either very simple or shortly bifid. 49. 55.

Southern.

PTEROCAULON. Calyx imbricate, with close-pressed, downy, sub-scarious scales: receptacle naked: perfect and pistillate florets intermixed; the pistillate ones slender; border 3-toothed: perfect ones with a 5-cleft border; egret hairy, scabrous: seed angled, hairy. 49. 55.

B. *Flowers radiate; the ligulate ray-florets very manifest.*

(Receptacle naked.)

TOWNSENDIA. Ray florets ligulate, disk florets perfect regular: leafets of the calyx imbricate in several series: egret in one series: short in the rays, chaff-subulate, unequal; pilose in the disk, hairs elongated somewhat scabrous. 49. 55.

MADIA. Ray florets in one series: corol of the rays lingulate, with

the laminæ longer than the tube: bony seed erose, compress-4-sided, 4-ribbed: disk small epigynous. 49. 55.

ERIGERON. Calyx imbricate, sub-hemispherical: egret pilose, double; outer egret minute and chaffy: florets of the ray linear, very narrow, numerous. 49. 55—(flea-bane, pride-weed.) *S.*

DIPLOPAPPUS. Rays in one series: egret in 2 series: corols of the disk regular: bony seed erose. 49. 55.

INULA. Calyx imbricate, generally squarrose; egret simple, scabrous, sometimes a minute exterior chaffy one: anthers ending in 2 bristles at the base: ray-florets numerous. Ray-florets always yellow. 49. 55—(elecampane.)

ASTER. Calyx imbricate, the inferior scales generally spreading: egret simple, pilose: receptacle often deep-pitted. Florets of the ray more than 10, except in solidaginoides, and a few other species: color purple or white, never yellow. 49. 55—(star-flower.) *S.*

EURYBIA. Ray florets fertile: leafets of the calyx closely imbricate, disk herbaceous narrow at the apex: tube and limb of the florets of the disk severed: bony seed elongated prismatic glabrous or pubescent: egret simple somewhat rigid permanent scabrous: receptacle alveolate. 49. 55.

GALATELLA. Pistillate rays sterile: the leafets of the narrow involucre are narrow, the herbaceous nerve under the apex not expanded: bony seed cornered densely hirsute or herbaceous: egret somewhat rigid, dense, scabrous: receptacle torn-alveolate. 49. 55.

SERIOCARPUS. Leafets of the the calyx broad subcartilaginous at the base, closely imbricate, abruptly herbaceous at the apex and mostly spreading: florets of the disk few, cylindrically conic, tube and limb passing into each other; bony seed short, obpyramidal, dense, silky: egret simple, a little rigid, permanent: receptacle narrow, alveolate, irregular. 49. 55.

TRIPOLIUM. Leafets of the calyx interior ample, membranaceous, colored, close-pressed; exterior decrease into the peduncle: bony seed cunei-form, compressed, somewhat glabrous: egret simple, capillary, dense, nodular-scabrous: receptacle alveolate. 49. 55.

SOLIDAGO. Calyx oblong or sub-cylindric, with oblong, narrow, pointed, strait scales, imbricate, closed upon the flower; ray-florets about 5, and fewer than 10, lanceolate, 2-toothed, equal to, or shorter than, the calyx: filaments capillary, very short: style thread-form, equalling the length of the stamens: stigma cleft, spreading: egret simple, pilose, scabrous: receptacle furrowed with dots or punctures: seeds oblong-ovate. (Yellow.) 49. 55—(golden rod.) *S.*

ARNICA. Calyx hemispherical, with the leafets equal, longer than the disk: receptacle naked: egret simple, hairy: florets of the ray often without anthers. Ray-florets yellow. 49. 55. *S.*

SENECIO. Calyx cylindric: leafets with withering, blackish tips, and a few small calycle leafets at the base: egret simple, capillary, copious. Ray-florets sometimes wanting. 49. 55—(rag-wort, fire-weed.) *S.*

CINERARIA. Calyx simple, many-leaved, equal: egret simple. 49. 55. *S.*

TUSSILAGO. Calyx simple, swelling; scales equal, and equalling the disk, sub-membranous: pistillate florets ligulate or without teeth: egret simple, sessile. 49. 55. (Sometimes polygamous.)—(coltsfoot.)

NARDOSMIA. Heads sub-dioecious; staminate surrounded with one

series of pistillate rays; pistillate homogamous: pistillate with lingulate corols; egret pilose, the staminate less copious than the pistillate.

Boltonia. Calyx imbricate: florets of the ray numerous: receptacle conic, punctate: egret consists of many minute bristles, and generally 2 elongated bristles or horns: seed flat, margined. 49. 55—(false chamomile.) *S.*

Chrysanthemum. Calyx hemispherical, imbricate, with the scales membranous at the margin: egret none, or a narrow margin. 49. 55—(ox-eyed daisy, fever-few.) *S.*

Blepharipappus. Ray few-flowered, the corols broad-wedge form; deeply 3-cleft: egret chaffy about 8, linear-acuminate, fringe-ciliate: rachis bracted. 49. 55.

Pyrethrum. Bony seed wingless, angled: egret crown-like, diameter of the bony seed about equalling it: flowers of the disk 5-toothed, thick, often flat-compressed, 2 winged; rays ligulate oblong: styles of the disk not branched. 49. 55.

Exotic.

Bellis. Calyx hemispherical; scales equal: egret 0: receptacle conical: seed obovate. 49. 55—(garden daisy.)

Tagetes. Calyx simple, 1-leafed, 5-toothed, tubular: florets of the ray about 5, permanent: egret 5, erect awns. 49. 55—(marigold.)

Matricaria. Calyx flat, imbricate, with scales having scarious margins: receptacle naked, terete, egret none. 49. 55.

Southern.

Brachyris. Calyx cylindric-ovate, closely imbricate; scales agglutinated together; ray and disk florets about 5 to each: receptacle naked; egret very short, chaffy: glumes 5 to 8, permanent. 49. 55.

Crinitaria. Little head discoid many-(or few-) flowered: rachis without bracts; egret pilose in two series: bony seed not beaked, compressed, silky.

Donia. Calyx hemispherical, imbricate, squarrose, glutinous: ray-florets 30 or more, (yellow;) receptacle naked, deep-pitted: egret consists of 3 or 4 caducous, somewhat chaffy, bristles. 49. 55.

Boberra. Calyx double; outer-one many-leaved: inner one 8-leaved: receptacle naked: egret pilose. 49. 55.

Tricophyllum. Calyx oblong-cylindric, many-leaved, equal: ray florets oblong: receptacle naked: egret chaffy, minute, 5 to 8-leaved; leafets obtuse, awnless. 49. 55.

Chrysopsis. Calyx imbricated: (ray-florets mostly yellow:) anthers naked at the base: receptacle naked: egret double; outer chaffy, minute: inner scabrous, many-rayed: seed obovate, villous. 49. 55.

Pectis. Calyx 5-leaved: ray florets 5: receptacle naked: egret 3 to 5 awns. 49. 55.

(Receptacle chaffy or hairy.)

Verbesina. Calyx many-leaved; leafets arranged in double series: florets of the ray about 5: egret 2-awned. 49. 55—(crown-beard.) *S.*

Anthemis. Calyx hemispherical; scales with scarious margins, nearly equal: egret 0, or a membranous margin: florets of the ray more than 5: receptacle chaffy flat, with a rigid acuminate apex: seed crowned

with a membranous border, or egret. 49. 55—(may-weed, chamomile.) *S.*

ACHILLEA. Calyx imbricate, ovate, unequal: egret 0: florets of the ray 5 to 10, roundish, dilated. (Flowers corymbed.) 49. 55.—(yarrow.) *S.*

ESPELETIA. Calyx imbricate, sub-squarrose, foliaceous: corola of the pistillate flowers scarcely toothed: receptacle flat, chaffy: egret 0: seed compressed, flattish, somewhat 4-sided. 49. 55.

HELIOPSIS. Calyx imbricate, with ovate-linear lined scales: ray florets linear, large: receptacle chaffy, conic; the chaffs lanceolate: seeds 4-sided: egret 0. 49. 55—(sun-ray.) *S.*

HELENIUM. Calyx 1-leaved, many-parted: egret 5-awned, chaffy leaves: receptacle globose, naked in the disk, and chaffy in the ray only: florets of the ray half-3-cleft: seed villose. (Leaves decurrent.) 49. 55—(false sunflower.) *S.*

Southern.

ZINNIA. Calyx cylindric ovate, imbricate: rays 5, entire, permanent; receptacle chaffy: egret 2-erect awns. 49. 55.

STARKEA. Calyx imbricate: receptacle hirsute: egret simple, sessile, scabrous. 49. 55.

ECLIPTA. Calyx many-leaved, sub-equal: disk-florets mostly 4-cleft: ray-florets very narrow, numerous: receptacle bristly: egret none: seed rugose, 2-edged, somewhat 4-sided. 49. 55.

SIEGESBECKIA. Outer calyx 5-leaved, spreading; inner one many-leaved, 5-angled, sub-equal; rays on one side of the flower only: receptacle chaffy: egret none: seed somewhat 4-sided. 49. 55.

ACMELLA. Calyx simple, leafets few; receptacle oblong, chaffy; seeds 4-sided, truncate at the summit, naked. 49. 55.

TETRAGONOTHECA. Calyx 1-leaved, 4-sided, 4-parted, very broad: receptacle chaffy: egret none. 49. 56.

ACTINELLA. Calyx many-leaved, sub-equal, flat: ray-florets (8 to 20) 3-toothed, widening towards the extremity: receptacle naked, hemispherical: egret chaffy: 5 to 8-awned glumes. 49. 55.

BUPHTHALMUM. Calyx leafy: egret marginal, 4-toothed or obsolete: seeds of the ray margined, and sometimes of the disk. 49. 55—(ox-eye.)

ORDER III. POLYGAMIA FRUSTRANEA.

HELIANTHUS. Calyx imbricate, sub-squarrose, leafy: receptacle flat, chaffy: egret 2-leaved, chaff-like, caducous. 49. 56—(sunflower, jerusalem artichoke.) *S.*

RUDBECKIA. Calyx consisting of a double order of leafets or scales: receptacle chaffy, conic: egret a 4-toothed margin, or 0. 49. 55—(cone-flower.) *S.*

CALLIOPSIS. Bony seed obcompressed wholly bald, curved within, truncate at the apex, narrowly 2-winged, disk minute epigynous; wings similar colored very entire: styles of the disk with truncate branches, pencilled at the apex. 49. 55.

WYETHIA. Calyx polyphyllous sub-squarrose, foliaceous: receptacle chaffy flat: egret deformed, very short, chaffy, many-leaved, and solitary bristles in the disk of the lateral plants. 49. 55.

Bidens. Calyx calycled, nearly equal, with or without ray-florets: receptacle flat, chaffy: egret consists of 2, 3, or 4 strong awns, with reflexed and erect lateral prickles: seeds 4-cornered. 49. 55—(burr-marygold, beggar-ticks.) *S.*

Corkopsis. Calyx double, both many-leaved (8 to 12:) inner ones many-leaved, sub-coriaceous and colored: seeds compressed, emarginate, 2-toothed; receptacle chaffy, flat: egret 2-horned. 49. 55—(tick-seed sunflower.) *S.*

Actinomeris. Calyx simple, many-leaved, leafy, sub-equal: rays remote, elongated, (4 to 8:) receptacle small, chaffy: the leafets embracing the margin of the seed: seed compressed, margined; crowned with 2 permanent awns. 49. 55. *S.*

Exotic.

Centaurea. Calyx various, mostly imbricate, roundish; egret simple, various: receptacle bristly; corols of the ray funnel-shape, longer, irregular. 49. 54—(blue-bottle, blessed thistle.)

Southern.

Leptopoda. Calyx simple, many-parted, rays 20 or more, 3-cleft, widening at the top: receptacle naked, hemispherical: egret consists of 8 to 10 awnless chaff-like valves. 49. 54.

Balduina. Calyx imbricate, squarrose-leafy: ray-florets somewhat 3-cleft: receptacle hemispherical, horn-like, cellular: egret chaffy, awnless, erect, about 10-leaved: seeds immersed in the receptacle. 49. 54.

Galardia. Calyx many-leaved, flat, sub-equal: rays 3-cleft, widening towards the top: receptacle bristly, hemispherical: egret chaffy; leafets 8 to 10, awned. 49. 54.

Order IV. Polygamia necessaria.

Silphium. Calyx squarrose: scales leafy, broad; egret a 2-horned margin: receptacle chaffy: seeds compressed, obcordate, margined, 2-toothed. 49. 55—(ragged-cup.) *S.*

Polymnia. Calyx double; exterior 4-5-leaved; interior 10-leaved; leafets concave: egret 0: receptacle chaffy. 49. 55—(leaf-cup.) *S.*

Iva. Calyx about 5-leaved or 5-parted; styles 2, long: seed obovate, naked obtuse: receptacle hairy, or chaff-bristly: ray 5-flowered. 49. 55—(high-water shrub.) *S.*

Exotic.

Calendula. Calyx many-leaved, equal: receptacle naked: egret none: seeds of the disk membranaceous. 49. 55—(pot marygold.)

Southern.

Chaptalia. Calyx sub-imbricated, many-leaved: pistillute florets in two series; outer ones rayed; inner ones naked: disk florets 2-lipped: receptacle naked: egret capillary. 49. 55.

Parthenium. Calyx 5-leaved: rays very small; receptacle chaffy, minute; outer scales dilated: seeds obovate, minutely 3-awned. 49. 55.

Chrysogonum. Calyx 5-leaved: receptacle chaffy: egret 1-leaved, 3-toothed: seed surrounded by a 4-leaved calycle. 49. 55.

Baltimora. Calyx cylindric, many-leaved: rays 5: receptacle chaffy: egret none: seed 3-sided. 49. 55.

Gynandria

GYMNOSTYLUS. Calyx many-leaved, the leaflets in a single series: pistillate florets apetalous: seeds compressed, somewhat toothed at the summit, awned with the permanent styles. 49. 55.

ORDER V. POLYGAMIA SEGREGATA.

ELEPHANTOPOS. Partial calyx 4-flowered: florets 5-cleft, ligulate, perfect: receptacle naked: down setaceous. 49. 55—(elephant-foot.) *S.*

Exotic.

ECHINOPS. Proper calyx 1-flowered: corol tubular, perfect: receptacle setose: egret obsolete. 49. 54—(globe thistle.)

CLASS XVIII. GYNANDRIA.

ORDER I. MONANDRIA.

A. *Anther adnate, sub-terminal, not caducous; masses of pollen affixed by the base, and made up of angular particles.*

ORCHIS. Corol ringent-like, upper petal vaulted: lip dilated, spurred beneath: masses of pollen 2, adnate, terminal. 7, 21—(orchis.) *S.*

HABENARIA. ORCHIS. Corol ringent-like: lip spurred at the base beneath: glands of the stipes of the masses of pollen naked and distinct; cells of the stipes adnate, or separated. 7. 21. *S.*

B. *Anther parallel with the stigma, not caducous; masses of pollen affixed to the summit of the stigma, and made up of farinaceous or angular particles.*

GOODYERA. Corol ringent-like, the 2 lower petals placed under the gibbous lip, which is undivided above: style free: constituent particles of the masses of pollen angular. 7. 21—(rattlesnake-leaf, scrophula weed.) *S.*

NEOTTIA. Corol ringent-like, the 2 lower petals placed under the lip, which is beardless; interior petals converging: style wingless: constituent particles of the masses of pollen farinaceous. 7. 21—(ladies' tresses.) *S.*

LISTERA. Corol irregular: lip pendant, 2-lobed: style wingless, minute, with the anther inserted at its base: pollen farinaceous. 7. 21—(lily orchis.) *S.*

Southern.

CRANICHIS. Corol 5-petalled, resupinate, sub-ringent: lip behind, vaulted: pollen farinaceous. 7. 21.

C. *Anther inserted, terminal, not caducous: masses of pollen farinaceous or angular.*

POGONIA. Petals 5, distinct, without glands: lip sessile, hooded, crested internally: pollen farinaceous. 7. 21—(snake-mouth.) *S.*

TRIPHORA. Petals 5, distinct, equal and converging, without glands: lip unguiculate, cowled: styles spatulate, even flattened, wingless: pollen farinaceous. 7. 21—(three-bird orchis.) *S.*

CYMBIDIUM. CALOPOGON. Petals 5, distinct; lip behind, (or invert-

ed,) unguiculate: the lamina bearded: style free: pollen angular. 7. 21—(grass pink.) *S.*

Arethusa. Petals 5, connate at the base: lip below, growing to the style, cowled above, crested within: pollen angular. 7. 21—(arethusa.) *S.*

D. Anther moveable, terminal, caducous; masses of pollen at length becoming waxy-like.

Tipularia. Petals spatulate, spreading: lip entire, sessile, conspicuously spurred below at the base: style wingless, lengthened, free: anthers in the form of a lid, permanent; masses of pollen 4, parallel. 7. 21—(limodore.) *S.*

Malaxis. Petals 5, narrower than the lip, spreading or deflexed; lip flattened, undivided, sessile, often exterior: style lengthened: masses of pollen 4, parallel, affixed to the summit of the stigma. Flower turned upside down by the twisting of the peduncle when the corol opens. 7. 21—(tway-blade.) *S.*

Triphorostylis. Petals 5, converging, one only deflexed; 2 inner ones filiform: lip about equalling the petals in length, erect, sessile, concave, truncate, and 2-toothed at the summit: style very minute: masses of pollen 3. 7. 21—(snake-mouth tway-blade.) *S.*

Corallorrhiza. Petals equal, converging: lip either unguiculate, or with an obsolete spur: masses of pollen 4, oblique, not parallel: style free. 7. 21—(coral root, adam-and-eve.) *S.*

Aplectrum. Petals equal, converging: lip unguiculate, not spurred or extended at the base: masses of pollen 4, oblique, lenticular: situated below the summit of the style. 7. 21.

Southern.

Bletia. Petals 5, distinct: lip sessile, cowled, somewhat spurred at the base: style free: masses of pollen 4 to 8, 2-lobed. 7. 21.

Calypso. Petals ascending, 1-sided: lip inflated, spurred beneath towards the point: style dilated, petal-like: masses of pollen 4. 7. 21.

Epidendrum. Masses of pollen 4, parallel, separated by a permanent partition: each mass with a granulated elastic filament at the base: style united lengthwise with the claw of the lip into a tube. 7. 21.

Order II. Diandria.

Cypripedium. Calyx colored, 4-leaved, spreading: corol 0. (by some the calyx is called a corol:) nectary large, hollow, inflated: style with a terminal lobe, and petal-like appendage on the upper side. 7. 21—(ladies' slipper.) *S.*

Order V. Pentandria.

Plants bearing seeds in follicles; and pollen in masses, called pollinia.

Asclepias.* Petals 5, reflexed: nectaries 5, concave, erect, contain-

* Plants of this artificial order (Natural order Apocyneae of Jussieu) were placed in class Pentandria, order Digynia, by Linneus. The celebrated James Edward Smith, shewed us the propriety of removing them to the class Gynandria. Afterwards a mistake, committed by that dis-

ing little horns: each stamen with a pair of pendulous masses of pollen, suspended from the top of the stigma: follicles smooth. 30. 47—(milk-weed, silk-weed.) *S.*

ACERATES. Corol reflexed: nectary 5-leaved; leafets concave, short, close-pressed to the angles of the filaments: each stamen with a pair of pendulous masses of pollen: follicle smooth. 30. 47. Corol 3 or 4 times as long as the calyx, with purple tips. *S.*

APOCYNUM. Corol bell-form: stamens with converging anthers, proceeding from the middle of the stigma and alternating with 5 nectaries: stigma thick, almost sessile; follicles in pairs, long-linear. 30. 47—(dogbane, indian hemp.) *S.*

GONOLOBUS. Corol wheel-form, 5-parted: nectary simple, cylindric, somewhat fleshy, 5-lobed, depressed; equal with the cases of the anthers, 5-angled, without winged lateral margins or terminal membranaceous bristles: masses of pollen in 5 pairs, even, transverse: follicles 2. 30. 47—(false choak-dog.) *S.*

PERIPLOCA. Calyx minute, 5-cleft, permanent: corol wheel-form, flat, 5-parted: nectary pitcherform, 5-cleft, putting out 5 threads, surrounding the stamens: style 1: stigma capitate, 5-cornered: follicles in pairs, inflated: seed comose. 30. 47—(milk vine.)

Southern.

PODOSTIGMA. ANATHERIX? Stigma on a stipe: masses of pollen 10, smooth, pendulous: nectary 5-leaved; leaves compressed: corol bell-form: follicles smooth. 30. 47.

ENSLENIA. Calyx small, 5-parted; permanent: corol 5-parted; segments converging, erect: nectary 5-parted, petal-like, divided almost to the base; segments truncate, flat, each terminated by 2 central filaments: each stamen with a pair of pendulous cylindric masses of pollen, suspended from the top of the conic stigma: follicles in pairs, small. 30. 47.

CYNANCHUM. Calyx 5-toothed, small, permanent: corol wheel-form: nectary simple, cylindric, 5 to 20-lobed, surrounding the orifice of the tube: each stamen with a pair of pendulous masses of pollen suspended from the double stigma: follicles in pairs: seed comose. 30. 47.

ECHITES. Contorted. Calyx 5-parted, small: corol salver-form; border 5-cleft, orifice naked: anthers rigid, acuminate, converging in the form of a cone, proceeding from the middle of the ring-like 2-lobed stigma: follicles in pairs, very long and straight: seed comose. 30. 47.

ASCLEPIAS. Calyx 5-parted: corol funnel-form, orifice closed: follicles in pairs, erect: seed terete, naked, and obliquely truncated. 30, 47.

* Passiflora.

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tinguished naturalist, Robert Brown, induced botanists to continue them in the class Pentandria, without questioning his accuracy—a case in point, shewing the danger of great men's errors. *The stamens certainly proceed from the stigma only, in all stages of maturity, in the Asclepias syriaca.* This I know from careful observations made under a high magnifying power for the last six years. The naked masses of glutinous pollen resembling the same in the family of Orchideae, may be worthy of our attention also.

Order VI. Hexandria.

Aristolochia. Calyx 0: corol superior, 1-petalled, ligulate, inflated at the base: capsule 6-celled, many-seeded. 11. 23—(birthwort.) *S.*

* Cleome.

Order X. Decandria.

Asarum. Calyx somewhat bell-form, 3 or 4-cleft, superior: corol 0: anthers proceeding from the middle of the filaments: stigma 6-cleft: capsule coriaceous, 6-celled, crowned with the calyx. 11. 23—(wild ginger, or white snake-root.) *S.*

* Calla, Arum, Zostera.

CLASS XIX. MONOECIA.

Order I. Monandria.

Zostera. Calyx and corol 0: stamens and pistils in 2 rows on one side of a spadix: spathe leaf-like. Staminate flowers with anthers ovate sessile, alternating with the germs. Pistillate flowers with the germ ovate; style 2-cleft; drupe 1-seeded. 2. 7—(grass wrack, sea eel-grass.) *S.*

Caulinia. Staminate flowers—calyx 0: corol 0: anthers sessile.—Pistillate flowers—calyx 0: corol 0: style filiform: stigma 2-cleft: capsule 1-seeded. 15. 7. (Flowers axillary.)—(river nymph.) *S.*

Zannichellia. Staminate flowers—calyx and corol 0. Pistillate flowers—calyx 1-leaved: corol 0: style 1, stigma peltate: little germs about 4, each 1-seeded. 2. 7.

Chara. Staminate flowers—calyx 0: corol 0: anthers globose, sessile. Pistillate flowers—calyx 0: corol 0: style 0: stigmas 5: berry 1-celled, many-seeded. 15. 6—(chara.) *S.*

Euphorbia.† Involucre perianth-like, inflated, with alternating petal-like segments. Staminate florets 12 or more, at the base of the stipe of the pistillate flower, each consisting of an anther united to a pedicel by a filament. Pistillate flower central, single, stiped; with 3 two cleft styles: capsule 3-lobed. 38. 96—(caper, spurge.) *S.*

Najas. Staminate flowers—calyx cylindric, 2-cleft: stamen filamentous, long: anther 4-valved; valves spreading. Pistillate flowers—calyx 0: style 0, with 2 stigmas: nut 4-seeded. 15. 7.

Order II. Diandria.

Podostemum. Staminate flowers—calyx 0: corol 0: stamens affixed to a pedicel. Pistillate flowers—calyx 0: corol 0: germ ovate: stigma 1, sessile: capsule 2-celled, 2-valved, many-seeded; seeds minute. 54. 7—(thread-foot.) *S.*

Lemna. Staminate flowers—calyx 1-leafed: corol 0: stamens seated on the base of the germ. Pistillate flowers—calyx 1-leafed: corol 0: style cylindric: stigma funnel-form: capsule 1-celled, 2 to 4-seeded. Always perfectly monoecious in North America. 54. 7—(duck-meat, water-flaxseed.) *S.*

* Salicornia, Hippuris, Callitriche, Calla, Platanus, Arum, Fraxinus.

† See Note under the Species in this work, under word Euphorbia.

Order III. Triandria.

Typha. Ament cylindric, dense-flowered. Staminate flowers—calyx obsolete, 3-leaved: corol 0: stamens 3 together, on a chaffy or hairy receptacle, united below into one. Pistillate flowers—below the staminate: calyx 0: corol 0: seed 1, pedicelled; the pedicels surrounded at the base with long hairs resembling egret. 3. 8—(cat-tail, or reed mace.) *S.*

Sparganium. Ament globose. Staminate flowers—calyx 3-leaved: corol 0. Pistillate flowers—calyx 3-leaved: corol 0: stigma 2-cleft: drupe juiceless, 1 or 2-seeded. 3. 8—(burr-reed.) *S.*

Carex. Aments imbricate, (usually in cylindric spikes.) Staminate flowers—calyx-scales single: corol 0. Pistillate flowers—calyx-scales single: corol inflated, monopetalous, 2-toothed at the apex: stigmas 2 or 3: nut 3-sided, enclosed in the inflated, permanent corol, which becomes an utriculus-like permanent aril. Sometimes dicœcious. 3. 9—(sedge.) *S.*

Scleria. Staminate flowers—calyx-glume 2 or 6-valved, many-flowered: corol-glumes awnless. Pistillate flowers—calyx 2 or 6-valved, 1-flowered, corol none: stigmas 1 to 3: nut colored, sub-globose. 3. 9—(whip grass.) *S.*

Tripsacum. Staminate flowers—calyx-glume 2-flowered, outer one staminate, inner one neutral: corol-glume membranaceous. Pistillate flowers—calyx-glume 1 or 2-flowered, covered with a 1-leafed involucre perforated with hollows near the base: corol with numerous thin membranaceous valves: styles 2: seed 1. 4. 10—(sesame grass.) *S.*

Comptonia. Staminate flowers—ament cylindric, with calyx-scales 1-flowered: corol 2-petalled or none: filaments 2-forked. Pistillate flowers—spike or ament ovate: corol 6-petalled, (the corol may be called a calyx:) styles 2: nut oval, 1-celled. 50. 99—(sweet fern.) *S.*

Exotic.

Coix. Staminate flowers—in remote spikes: calyx-glume 2-flowered, awnless: corol-glume awnless. Pistillate flowers—calyx-glume 2-flowered: corol-glume awnless: style 2-parted: seed covered with the bone-like calyx. 4. 10—(job's tear.)

Southern.

Zea. Staminate flowers—calyx-glume 2-flowered, awnless: corol-glume awnless. Pistillate flowers—calyx-glume 2-valved, (number of valves increased by cultivation:) style 1, very long, filiform, pendulous: seed solitary, immersed in an oblong receptacle. 4. 10—(indian corn.)

Tragia. Staminate flowers—calyx 3-parted: corol none. Pistillate flowers—calyx 5-parted: corol none: style 3-cleft: capsule tricoccus, 3-celled: seed solitary. 38. 96.

Manisuris. Somewhat polygamous. Staminate flowers—calyx-valves 2, lanceolate, flexuous: corol a mere rudiment. Pistillate flowers—calyx-glume 2-valved, the outer one roundish, cartilaginous: corol 2-valved. In the perfect flowers there are 3 stamens, 2 styles, seed 1. In some the stamens, styles and nectaries are wanting. 4. 10.

* Momordica, Amaranthus, Melothria. Grasses of Class 3, Order 2, Sec. E., vary into this order.

'ORDER IV.' TETRANDRIA.

ERIOCAULON. Common calyx many-leaved; florets many, in an imbricate head: partial perianth superior, 2 or 3 leaved. Staminate flowers central, with monopetalous cleft corols. Pistillate flowers marginal, with 2-petalled corols: stigmas 2 or 3: capsule 2 or 3-celled, 2 or 3-lobed: seed 1, crowned with the corol. 6. 13—(pipe-wort.) *S.*

ALNUS. Staminate flowers—ament composed of wedge-form, truncate, 3-flowered receptacles: calyx a scale, 3-lobed: corol 4-parted. Pistillate flowers—calyx 2-flowered scales, somewhat 3-cleft: corol 0; seed compressed, ovate, wingless. 50. 99—(alder.) *S.*

BEHMERIA. Staminate flowers—calyx 4-parted: corol 0: nectary 0. Pistillate flowers—calyx 0: corol 0: styles 2: seed 1, compressed. (Flowers in cylindric spikes.) 53. 98—(false nettle.) *S.*

URTICA. Staminate flowers—calyx 4-leaved: corol 0: nectary central, cyathiform. Pistillate flowers—calyx 2-leaved, (2-valved:) corol 0: seed 1, glossy. 53. 98—(nettle.) *S.*

PARIETARIA. Polygamous. Perfect flowers—calyx 4-cleft, inferior: corol 0: stamens elastic: style 1: seed 1. Pistillate flowers—calyx 2-leaved: seed covered with the dry elongated calyx. 53. 98—(pellitory.) *S.*

MORUS. Staminate flowers—calyx 4-parted: corol 0. Pistillate flowers—calyx 4-leaved: corol 0: styles 2: calyx becoming berry-like: seed 1. 53. 98—(mulberry.) *S.*

Exotic.

BUXUS. Staminate flowers—calyx 3-leaved: petals 3, with the rudiment of a germ. Pistillate flowers—calyx 4-leaved: petals 3: styles 3: capsule with 3 beaks and 3 cells: seeds 2. 38. 91—(box.)

Southern.

PACHYSANDRA. Calyx about 4-leaved: corol none: filaments sub-clavate: styles 3: capsules 3-horned, 3-celled: cells 2-seeded. 38. 96.

DIOTIS. Staminate flowers—calyx 4-leaved: corol none. Pistillate flowers—calyx 1-leaved, 2-horned: style 2-parted: seed 1, covered by the 2-horned calyx. 12. 29.

ORDER V. PENTANDRIA.

CROTONOPSIS. Staminate flowers—calyx 5-parted: corol 5-petalled. Pistillate flowers—calyx 5-parted: corol none: stigma 3, twice 2-cleft: capsule 1-seeded. 38. 96—(false spurge.) *S.*

AMARANTHUS. Staminate flowers—calyx 3 or 5-leaved: corol 0: stamens 3 or 5. Pistillate flowers—calyx and corol as the staminate: styles 3: capsule 1-celled, opening transversely: seed 1. 54. 30—(amaranth, red cockscomb.) *S.*

XANTHIUM. Staminate flowers—common calyx imbricate: anthers in contact, but not united: corol 5-cleft, funnel-form: receptacle chaffy. Pistillate flowers—involucre 2-leaved, 1-flowered: corol 0: drupe dry, muricate, 2-cleft: nut 2-celled. 54. 98—(sea-burdock.) *S.*

AMBROSIA. Staminate flowers—common calyx 1-leaved: anthers in contact, but not united: corol 1-petalled, 5-cleft, funnel-form: receptacle naked. Pistillate flowers—calyx 1-leaved, entire, the swelling part

5-toothed, 1-flowered: corol 0: nut from the indurated calyx 1-seeded. 54. 55—(hog-weed.) *S.*

Southern.

SCHIZANDRA. Calyx 9-leaved; leaves in three series: corol none: anthers sub-sessile, cohering at the tips: berries 1-seeded, inserted on an elongated, thread-form receptacle. 11. 77.

ORDER VI. HEXANDRIA.

ZIZANIA. Staminate flowers—calyx 0: corol-glume 2-valved, sub-awned, with pistillate flowers intermixed. Pistillate flowers—calyx 0: corol-glume 2-valved, cucullate, awned: style 2-parted: seed 1, invested in the plaited corol. 4. 10—(water oats.) *S.*

HYDROCHLOA. Pistillate flowers—calyx none: corol 2-valved, awnless. Staminate flowers—calyx none: corol 2-valved, awnless: stigmas 2, very long: seed 1, reniform. 4. 10.

* Celtis, Veratrum, Quercus, Betula.

ORDER XII. POLYANDRIA.

A. *Stems not woody.*

CERATOPHYLLUM. Staminate flowers—calyx many-parted: corol 0: stamens 16—20, short, with tricuspidate anthers. Pistillate flowers—calyx 6-leaved or many-parted, imbricated: corol 0: pistil 1, with the stigma nearly sessile, oblique: nut 1-seeded. 15. 88—(horn-wort.)

MYRIOPHYLLUM. Staminate flowers—calyx 4-cleft: petals 4, caducous: stamens 4, 6, or 8. Pistillate flowers—calyx and corol like the staminate, excepting that the calyx is often 4-leaved: germs 4: style 0: stigmas 4, hairy: seeds 4, having a bark; sub-globose, 1-seeded. 15. 88—(water milfoil.) *S.*

SAGITTARIA. Staminate flowers—calyx 3-leaved: corol 3-petalled: filaments mostly 24. Pistillate flowers—calyx and corol as in the staminate: germs many: capsules aggregate, 1-seeded, not opening. 5. 13—(arrow-head.) *S.*

ARUM. Spathe cucullate, 1-leaved: spadix not entirely covered with the fructification; being more or less naked above, with pistillate flowers beneath, and staminate in the middle; (sometimes a few are staminate beneath:) berry mostly 1-seeded, generally cirrose-glandular beneath. 2. 7—(indian turnip, wake-robin.) *S.*

RENSSELAERIA.* Spathe convolute: spadix covered with flowers, fertile at the base, barren above: perianth none: berry 1-seeded. 2. 7.—(spear arum.)

CALLA. Spathe ovate, becoming expanded: spadix covered with the fructification: stamens intermixed. Staminate flowers—calyx and corol 0: anthers sessile. Pistillate flowers—calyx and corol 0: berries 1-celled, many-seeded, crowned with the short style. 2. 7—(water arum.)

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* This is the Arum virginicum of Lin. from which Cooper constructed a genus Lecontia. As that name had been given to another plant, Prof. L. C. Beck gave it this name, as a small memento of the munificent patronage extended to the Natural Sciences by the Hon. Stephen Van Rensselaer.

Exotic.

POTERIUM. Staminate flowers—calyx 4-leaved: corol 4-parted: stamens 30 to 50. Pistillate flowers—calyx and corol like the staminate: pistils 2: berry from the indurated tube of the corol. 54. 92—(burnet.)

Southern.

CALADIUM. Anthers peltate, many-celled, collected into a spike at the summit of the spadix: style none: germs at the base of the spadix: stigma umbilicate: berry 1-celled, many-seeded. 2. 7.

B. *Stems woody.*

QUERCUS. Staminate flowers—ament loose: calyx sub-5-cleft: corol none: stamens 5 to 10. Pistillate flowers—calyx 1-leafed, entire, scabrous, being a woody cup: style one, stigmas 2 to 5: nut or acorn 1-celled, 1-seeded, coriaceous, surrounded at the base by the permanent calyx. 50. 99—(oak.) *S.*

CORYLUS. Staminate flowers—ament cylindrical, imbricate: calyx a 3-cleft scale: pericarp none: stamens about 8. Pistillate flowers—calyx 2-parted, lacerated: stigmas 2: nut ovate, surrounded by and included in the permanent leaf-like calyx. 50. 99—(hazlenut.) *S.*

FAGUS. Staminate flowers—ament roundish: calyx 5 or 6-cleft, bell-form: stamens 5 to 12. Pistillate flowers—calyx 4-toothed, setose: germs 2: nuts 2, inclosed in the calyx, becoming coriaceous echinate. 50. 99—(beach.) *S.*

CASTANEA. Polygamous. Staminate flowers—ament naked, linear: corol (or calyx) 1 leaved, 5 or 6-parted: stamens 10 to 20. Pistillate flowers—calyx 5 or 6-leaved, (or 5 or 6-lobed) muricate: germs 3: stigma pencil-form: nuts 3, with coriaceous putamen, inclosed in the calyx, becoming echinate. 50. 99—(chesnut.) *S.*

BETULA. Staminate flowers—ament cylindric, imbricate, scales peltate, 3-flowered: stamens 10 to 12. Pistillate flowers—calyx a 2 or 3-flowered scale: seed 1, winged. 50. 99—(birch.) *S.*

CARPINUS. Ament imbricate, cylindric. Staminate flowers—calyx-scales ciliate: stamens 10. Pistillate flowers—in a loose ament: calyx-scales large, 3-lobed, 1 or 2-flowered: corol 3-cleft: styles 2: nut ovate-sulcate. 50. 99—(hornbeam.) *S.*

OSTRYA. Ament imbricate, cylindric. Staminate flowers—calyx a 1-flowered scale: filaments ramose. Pistillate flowers—ament naked: capsule inflated, imbricate at its base, 1-seeded. 50. 99—(hop hornbeam.) *S.*

PLATANUS. Ament globose. Staminate flowers—corol none or scarcely apparent, anthers growing around the filaments. Pistillate flowers—calyx many-leaved: style with a recurved stigma: seed roundish, crowned with the mucronate style, with egret-like hairs at the base. 50. 99—(button-wood, false sycamore.) *S.*

LIQUIDAMBAR. Staminate flowers—ament conic surrounded with a 4-leaved involucre: corol 0: filaments numerous. Pistillate flowers—ament globose, surrounded with a 4-leaved involucre: calyx 1-leafed, pitcher-form, 2-flowered; styles 2: capsules 2, surrounded at the base by the calyx, 1-celled, many-seeded. 51. 99—(sweet gum.) *S.*

JUGLANS. Staminate flowers—ament imbricate; calyx a scale, generally 5-parted; corol 4 or 5-parted: stamens 18 to 36. Pistillate flowers—

calyx 4-cleft, superior: corol 4-cleft or 4-parted: styles 1 or 2: drupe partly spongy: nut rugose and irregularly furrowed. 50. 94—(butternut, black walnut.) *S.*

Carya. Staminate flowers—ament imbricate: calyx 3-parted scales: corol 0: stamens 4 to 6. Pistillate flowers—calyx 4-cleft, superior: corol 0: styles 0: stigma disk-like, 4-lobed: pericarp 4-valved: nut subquadrangular, even. 50. 94—(hickory, walnut.) *S.*

Order XV. Monadelphia.

A. *Stems not woody.*

Acalypha. Staminate flowers—calyx 3 or 4-leaved, or 3 or 4-parted: corol none: stamens 8 to 16. Pistillate flowers—calyx and corol like the staminate: styles 3, 2-cleft: capsule tricoccous, 3-celled. (Having large bracts.) 38. 96—(three seed mercury.) *S.*

Phyllanthus. Staminate flowers—calyx 5 or 6-parted; filaments united in a column; anthers 3, and generally several barren filaments. Pistillate flowers—calyx and corol like the staminate: nectary with a 12-angled margin: styles 3: capsule tricoccous. 38. 96—(leaf-flower.) *S.*

Melothria. Staminate flowers—calyx 1-leaved, 3 to 5-toothed: corol bell-form: filaments 3. Pistillate flowers—calyx and corol as in the staminate, superior: style 1: stigmas 3; berry 3-celled, many-seeded. 34. 97—(creeping cucumber.) *S.*

Momordica. Staminate flowers—calyx 5 or 6-cleft: corol 5 or 6-parted: filaments 3. Pistillate flowers—style 3-cleft: berry gourd-like and bursting elastically: seeds compressed. 34. 97—(balsam apple, wild cucumber.)

Sicyos. Staminate flowers—calyx 5-toothed: corol 5-parted: filaments 3. Pistillate flowers—styles 3-cleft: berry gourd-like, 1-seeded. 34. 97—(single-seed cucumber.) *S.*

Exotic.

Cucumis. Staminate flowers—calyx 5-toothed: corol 5-parted: filaments 3. Pistillate flowers—calyx and corol like the staminate: stigmas 3, thick, 2-parted: berries with sharpish seeds. 34. 97—(cucumber, musk-melon.)

Cucurbita. Staminate flowers—calyx 5-toothed: corol 5-cleft: filaments 3. Pistillate flowers—calyx and corol like the staminate: pistil 3-cleft: pomaceous berry large, 3-to 5-celled: seeds thickened at the margin. 34. 97—(gourd, squash, pumpkin, water-melon.)

Ricinus. Staminate flowers—calyx 5-parted: stamens numerous. Pistillate flowers—calyx 3-parted: styles 3, 2-cleft: capsules echinate, 3-celled, 3-seeded. 38. 96—(palma christi, or castor oil plant.)

Southern.

Jatropha. Staminate flowers—calyx 5-leaved or wanting: corol funnel-form: stamens 10, with every other one shorter. Pistillate flowers—calyx none: corol 5-petalled, spreading: styles 3, 2-cleft; capsule 3-celled. 1-seeded. 38. 96—(physic nut.)

Stillingia. Staminate flowers—involucre hemispherical, many-flowered, or wanting: perianth tabular, erose: stamens 2 or 3, exsert.

Pistillate flowers—calyx 1-flowered, inferior: style 3-cleft: capsule 3-grained. 38. 96—(tallow tree.)

CROTON. Staminate flowers—calyx cylindrical, 5-toothed: petals 5, or none: stamens 10 to 15. Pistillate flowers—calyx 5-leaved or none: corol none: styles 3 or 6, 2-cleft: capsule 3-grained, 3-celled, 3-seeded. 38. 96.

B. *Stems woody.*

PINUS. Staminate flowers—calyx 4-leaved, peltate: corol 0: stamens many; anthers naked, 2 sessile, 1-celled. Pistillate flowers—calyx in strobiles or cones, scales closely imbricate, 2-flowered: pistil 1: nut with a membranaceous wing. (Perhaps more properly a samara.) 51. 100—(pine.) *S.*

THUJA. Staminate flowers—ament imbricate: calyx a scale: corol 0: anthers 4, sessile. Pistillate flowers—ament a strobile: calyx a 2-flowered scale: corol 0: nut 1, surrounded with a marginal wing. 51. 100—(arbor vitæ.) *S.*

CUPRESSUS. Staminate flowers—ament ovate, imbricate: calyx a peltate scale: corol 0: anthers 4, sessile. Pistillate flowers—ament strobilaceous: calyx a 1-flowered peltate scale; corol none: germs 4 to 8, under each scale of the calyx: nuts angular, compressed. 51. 100—(white cedar.) *S.*

CLASS XX. DIOECIA.

ORDER II. DIANDRIA.

VALLISNERIA. Staminate flowers—spathe ovate, 2-parted: spadix covered with minute florets: perianth 3-parted. Pistillate flowers—spathe 2-cleft, 1-flowered: perianth 3-parted, superior: corol 3-petalled: stigmas strap-like, 2-cleft: capsule valveless, 1-celled: seeds numerous, attached to the sides. 1. 22—(tape-grass.)

SALIX. Staminate flowers—ament cylindric: calyx a 1-flowered scale, with a nectariferous gland at the base: stamens 1 to 6. Pistillate flowers—ament and calyx like the staminate: stigmas 2; generally 2-cleft: capsule 1-celled, 2-valved; seeds many, with egret-like down. 50. 99—(willow.) *S.*

FRAXINUS. Polygamous. Perfect flowers—calyx 0, or 3 or 4-parted: corol 0, or 4-petalled: pistil 1: samara 1-seeded, with a lanceolate wing. Pistillate flowers—calyx, corol and pistils same as perfect. 44. 34—(ash.) *S.*

Southern.

BORYA. Staminate flowers—calyx 4-leaved: corol none: stamens 2 or 3. Pistillate flowers—stigma capitate: berry 1-seeded. 10. 96.

CERATIOLA. Calyx bud-like, imbricated with 6 to 8 scales: corol none: stamens 2, exsert: stigmas unequal, (4 to 6) 2 of them larger: berry with 2 bony seeds. 18. 96—(horn-bush.)

ORDER III. TRIANDRIA.

EMPETRUM. Staminate flowers—calyx bud-like, imbricated with about 9 scales: the 3 innermost are petal-like: stamens long. Pistillate flow-

ers—calyx and corol as in the staminate; stigmas 9: berry 9-seeded: seeds bony. 18. 96—(crow-berry.)

Exotic.

FICUS. Common receptacle fleshy, (becoming the fruit) enclosing the apetalous florets; both staminate and pistillate, either in the same, or in distinct individuals. Staminate flowers—calyx 3-parted. Pistillate flowers—calyx 5-parted: pistil 1, lateral: seed 1, covered with the closed, permanent, somewhat fleshy calyx. 53. 98—(fig-tree.)

ORDER IV. TETRANDRIA.

MYRICA. Staminate flowers ament oblong: calyx an ovate lunulate scale: corol 0: stamens 4 to 6: anthers 4-valved. Pistillate flowers—calyx and corol like the staminate: stigmas 2: drupe or berry 1-seeded. 50. 99—(bay-berry, sweet gale.) *S.*

VISCUM. Staminate flowers—calyx 4-parted: corol 0: anthers sessile, adhering to the calyx. Pistillate flowers—calyx 4-leaved, superior; corol 0: style 0: berry 1-seeded, globose: seed cordate: (parasitic, adhering to the trees.) 43. 58—(misletoe.) *S.*

ARCENTHOBIUM. Staminate flowers sessile: calyx 0: corol monopetalous, 2-3-, rarely 4-, parted, horn-fleshy; divisions ovate, concave, spreading: stamens 2, 3, 4; anthers sessile: germ 0; but in its place is a small gland, 2, 3, or 4-lobed. Pistillate flowers short-pedicelled: stigma sessile small, obscurely lobed: berry terete, 1-seeded. Plant leafless, parasitic, jointed. 43. 58.

Southern.

MACLURA. Staminate flowers—[not examined.] Pistillate flowers—calyx none: corol none; style 1, filiform, villous: germs numerous, becoming a berry-like aggregate, many-celled, 1-seeded; seed obovate, compressed. 53. 98.

BROUSSONETIA. Staminate flowers—ament cylindrical: calyx 4-parted. Pistillate flowers—ament globose: calyx tubular, 3 or 4-toothed: germ becoming fleshy, clavate, prominent: style lateral; seed 1, covered with the calyx. 53. 98—(paper mulberry.)

ORDER V. PENTANDRIA.

NYSSA. Perfect flower—calyx superior, 5-parted; corol 0: pistil 1: fruit a drupe, nut 1-seeded. Staminate flowers—stamens 5 to 12, standing around a peltate gland. 12. 24—(tupelo tree, pepperidge.) *S.*

HAMILTONIA. Perfect flowers—calyx sub-campanulate, superior, 5-cleft; corol 0: nectary with a 5-toothed disk: stamens 5: pistil 1: fruit a drupe. Staminate flowers like the perfect, except in wanting the pistil. 43. 25—(american oil-nut.) *S.*

XANTHOXYLUM. Staminate flowers—calyx 5-parted: corol 0: stamens 3 to 6. Pistillate flowers—pistils 3 to 5: capsules equal to the number of pistils, 1-seeded. 46. 94—(prickly ash, or tooth-ache tree.) *S.*

ACNIDA. Staminate flowers—calyx 5-parted: corol 0: Pistillate flowers—calyx 3-parted; style 0; stigmas 3, sessile: capsule 1-seeded. 53. 29—(water hemp.) *S.*

HUMULUS. Staminate flowers—calyx 5-leaved: corol 0: anthers with 2 pores at the extremity. Pistillate flowers—calyx 1-leafed, entire, ob-

lique, spreading: styles 2: seed 1, within the leaf-like calyx: inflorescence strobile-form. 53. 98—(hop.) *S.*

Exotic.

CANNABIS. Staminate flowers—calyx 5-parted. Pistillate flowers—calyx 5-leaved, entire, gaping laterally: styles 2: nut 2-valved, within the closed calyx. 53. 98—(hemp.)

SPINACIA. Staminate flowers—calyx 5-parted: corol 0. Pistillate flowers—styles 4: seed 1, within the indurated calyx. 12. 29—(spinach.)

Southern.

IRESINE. Staminate flowers—calyx 2-leaved: petals 5; nectaries 5 or 7. Pistillate flowers—stigmas 2, sessile: capsule many-seeded, becoming downy. 12. 30.

*Vitis.

ORDER VI. HEXANDRIA.

SMILAX. Staminate flowers—calyx 5 or 6-leaved, inferior: corol 0: anthers adhering to the filaments. Pistillate flowers—calyx and corol like the staminate: styles minute; stigmas 3: berry 3-celled, 1 to 3-seeded. 11. 12—(green briar, jacob's ladder.) *S.*

DIOSCOREA. Staminate flowers—calyx 6-parted: corol none. Pistillate flowers—styles 3: capsule 3-celled, triangular, compressed: seeds 2, membranaceous. (Leaves generally alternate.) 11. 12—(yamroot.) *S.*

GLEDITSCHIA. Perfect flowers—calyx 6 to 8-parted, caducous, 3 or 4 of the outer segments smaller: corol none: stamens 5 or 6 (rarely 8:) legume long, flat, compressed, 1 or many-seeded. Staminate flowers—calyx sub-turbinate, 5 to 8-parted, with 3 to 5 of the segments interior: stamens 6 to 8. 33. 93—(honey locust.) *S.*

*Helonias.

ORDER VIII. OCTANDRIA.

POPULUS. Staminate flowers—ament cylindric, calyx a torn scale: corol turbinate, oblique, entire, supporting 8 to 30 stamens. Pistillate flowers—ament, calyx and corol like the staminate; stigma 4 or 6-lobed: capsule 2-celled, 2-valved, many-seeded; seed with egret-like hairs. (Leaves having a tremulous motion.) 50. 99—(poplar, balm of gilead.) *S.*

DIOSPYROS. Staminate flowers—calyx 4 to 6-cleft, dilated: corol pitcher-form, 4 to 6-cleft: stamens 8, 16 or 24; often 2 anthers to a filament. Pistillate flowers—calyx and corol like the staminate: stigmas 4 or 5: berry 8 to 12-seeded. 18. 49—(date plum.) *S.*

HIPPOPHAE. SHEPHERDIA. Staminate flowers—calyx 4-parted, caducous, tubular: corol 0: stamens 8, enclosed, alternating with 8 glands. Pistillate flowers—calyx 4-cleft, bell-form, superior: style 1; stigma oblique: berry 1-seeded. 16. 24—(sea-buckthorn.)

ORDER IX. ENNEANDRIA.

SERPICULA. UDORA. ELODEA. The perfect flowers have 3 stamens only. Staminate flowers—calyx 3-parted: corol 3-petalled: stamens 9,

3 of them within. Pistillate flowers—calyx 3-parted; tube very long: petals 3: barren filaments 3: capsule bladder-like, 3-seeded: seeds cylindrical. 15. 22—(ditch-moss.) *S.*

Southern.

HYDROCHARIS. Staminate flowers—spathe 2-leaved; perianth 3-parted: corol 3-petalled: styles 3, all abortive. Pistillate flowers—spathe, perianth and petals, like the staminate and superior: stigmas 6, 2-cleft: stamens 3, barren; 3 nectariferous glands: capsule 6-celled, many-seeded. 1. 22—(frog-bit.)

ORDER X. DECANDRIA.

GYMNOCLADUS. Staminate flowers—calyx tubular, 5-cleft: corol 5-petalled. Pistillate flowers—same as the staminate: style 1: legume 1-celled, pulpy within: seed roundish, large and hard. 33. 93—(coffee-bean.)

Southern.

CARICA. Staminate flowers—calyx minute or obsolete: corol 5-cleft, funnel-form: filaments alternately shorter, enclosed in the tube of the corol. Pistillate flowers—calyx 5-toothed: corol 5-petalled: stigmas 5: berry (cucumber-form) grooved, 1-celled, many-seeded. 38. 97—(false papaw tree.)

ORDER XII. POLYANDRIA.

MENISPERMUM. Staminate flowers—calyx 6-leaved, somewhat 2-bracted caducous: petals 6 to 9, glandular, minute, retuse: stamens 16, 20 or 24: anthers 4-lobed, 2-celled, adnate to the filaments. Pistillate flowers—calyx and corol like the staminate: germs and styles 3 to 6: drupes or berries mostly solitary, 1-seeded: nut woolly, lunulate, compressed. 11. 77—(moon-seed.) *S.*

DATISCA. Staminate flowers—calyx 5-leaved: corol 0: anthers sessile, about 15. Pistillate flowers—calyx superior, 2-toothed: styles 3: capsules 3-angled, 3-horned, 1-celled, many-seeded, pervious. 54. 981—(false hemp.)

CYCAS. Staminate flowers—ament imbricated: calyx a spatulate scale: corol 0: anthers globose, sessile, on a scale. Pistillate flowers—spadix compressed, 2-sided: perianth a scale.

Southern.

ZAMIA. Ament a strobile. Staminate flowers—calyx consists of obovate scales: corol none: anthers globose, sessile upon scales, opening by a fissure. Pistillate flowers—calyx consists of peltate scales: corol none: germs 2; styles none: berries 2, 1-seeded. 1. 11.

*Thalictrum.

ORDER XV. MONADELPHIA.

JUNIPERUS. Staminate flowers—ament ovate, whorled: calyx a peltate scale: anthers 4 to 8. Pistillate flowers—calyx 3-parted: petals 3: styles 3: berry 1 or 2-seeded, consisting of the unequal tubercles of the

calyx. (Nut bony, 1-celled, with balsamy glands at the base.) 51. 100—(red cedar, savin.) *S.*

Taxus. Staminate flowers—calyx consists of 4 to 6 imbricated scales: corol 0: stamens many, 8 to 10: anthers peltate, 6 to 8-cleft. Pistillate flowers—style 0: receptacle cup-form, sueculent; nut or drupe fleshy, open at the extremity, 1-seeded. 51. 100—(yew.)

Cissampelos. Staminate calyx 4-leaved: corol 0: nectary wheel-form: stamens 5 with connate filaments. Pistillate calyx 1-leaved, round-ligulate: styles 3: berry 1-seeded.

CLASS XXI. CRYPTOGAMIA.

Order I. Filices.

A. *Capsule having an elastic ring at right angles with its opening.*

Polypodium. Capsules disposed in round scattered fruit dots, (or clusters of capsules,) on various parts of the lower surface of the frond: involucre none. 55. 5—(polypod.) *S.*

Acrostichum. Capsules numerous, covering the whole lower surface of the frond: involucre none. (The fertile leaves differ in shape from the barren. This genus should be examined in the young state; for the scattered fruit of their genera, by becoming confluent when old, often cover the frond.) 55. 5—(fork-fern.) *S.*

Hypopeltis. Fruit dots roundish, having a cup-form involucre beneath, divided into 5 or 6 irregular segments: capsules all sessile. 55. 5.

Woodsia. Involucre beneath, perianth-form, with a hair-like margin: capsules pedicelled, included within the involucre; fruit-dots roundish, scattered. 55. 5—(flower-cup fern.) *S.*

Aspilium.* Capsules in scattered roundish fruit-dots on various parts of the whole lower surface of the frond: involucre a kidney-form or round membrane, fastened to the frond in or near the centre of the fruit-dot, and opening on all sides, or to one side of the fruit-dot, and opening on the other. (The involucre, when a little opened, is often peltate.) 55. 5—(shield-fern.) *S.*

Asplenium. Capsules in lines parallel to each other, situated exactly *upon* the secondary veins of the frond: involucres opeuing inwards. (By the secondary veins is meant those of the middle part of the disk, not the larger ones at the margin or midrib. The parallel lines of capsules may stand obliquely with respect to the midrib, but their direction must be parallel to each other.) 55. 5—(spleen-wort, walking-leaf.) *S.*

Scolopendrium. Capsules in strait or zigzag parallel lines *between* the secondary veins (or ribs) of the frond: involucre double opening on the top of the lines of capsules, and folding down towards each side. (In the genus *asplenium*, the lines of capsules lie across the veins of the frond; but in this they are in line with the veins, and attached along their sides or between them.) 55. 5—(caterpillar fern.)

Blechnum. Capsules in uuinterrupted lines running parallel to the

*The genus Athyrium is re-united to the Aspidium, in accordance with Dr. Torry's views. The mere fastening of the involucre on one side of the fruit-dot, and opening on the other, not being sufficient for dividing a natural genus.

midrib of the frond on both sides: involucre opens inwards. (The fruit of this genus, when ripe, often covers the whole lower surface of the frond, like the *acrostichum;* it must therefore be examined in the young state.) 55. 5—(roman fern.) *S.*

Woodwardia. Capsules in oblong or oval spots, arranged in regular rows on both sides of, and parallel with, the ribs: involucre vaulted, and opening inwards. (When the leaves have large segments, the capsules are arranged along the midribs of the segments. (55. 5—(kidney-fruit fern.) *S.*

Pteris. Capsules arranged in a continued line along the very margin of the frond: involucres opening inwards, being formed of the inflexed margins of the fronds. (When the leaves are extremely small, the rows of capsules on opposite sides meet and cover the lower surface.) 55. 5—(brake.) *S.*

Adiantum. Capsules disposed in oblong fruit-dots, arranged along the margin of the frond: involucre is formed by turning back the margin of the frond over the capsules, and it opens inwards. (The lines of oblong spots are generally along that margin, which may be considered the end of the leaf, or of the segments of the leaf.) 55. 5—(maiden-hair.) *S.*

Dicksonia. Capsules in small round scattered fruit-dots at the margin of the frond: involucre double; one part is formed of the thin margin of the frond, turned over upon the fruit-dots, the other is from the frond on the inward side of the fruit dots, each part opening opposite to where it is fastened to the frond. 55. 5—(mountain fern.) *S.*

Cheilanthes. Fruit-dots roundish, punctate, distinct, situated at the margin of the frond: involucre a roundish membrane, formed by turning over the margin of the frond upon the fruit-dots, and opening inwards. (The margin is always crenate, and each fruit-dot has its own involucre perfectly separate from the others) 55. 5—(lip-fern.) *S.*

Hymenophyllum. Fruit-dots marginal; the capsule sessile. inserted on a common cylindrical receptacle, within a 2-valved involucre of the same texture as the frond-valves have; exterior free. 55. 5. *S.*

Onoclea. Fruit-dots indeterminate, presenting a berry-like appearance; capsules covering the whole lower surface of the frond: involucre formed by turning in or rolling back the margin of the leaf, which opens inwards, in maturity, towards the midrib, or remains closed. (The fertile leaves are contracted and narrower than the barren ones.) 55. 5—(sensitive polypod.) *S.*

Struthiopteris. Capsules covering the back of the frond very densely: involucre scale-like, marginal, opening inwards. 55. 5.

Southern.

Vittaria. Fruit-dots linear continued longitudinally along the disk or towards the margin of the frond: involucre double, uninterrupted; one opening outwards, the other inwards. 55. 5.

B. *Capsule without a ring—being cellular-reticulate, pellucid, sub-striate, radiate at the tip.*

Osmunda. Capsules globose, pedicelled, radiate-striate or wrinkled, having a hinge at the joining of the two valves, which resembles part of the jointed ring of annulated ferns: the capsules either occupy the

whole frond, to a limited extent, or a panicled raceme. (The parts of the frond occupied by the fruit are always more contracted than the barren parts.) 55. 5—(flowering fern.) *S.*

SCHIZÆA. Capsules top-form, partly opening by an oblong lateral pore; striate longitudinally and radiately, situated upon the back part of a narrow spike-form appendage of the frond, surrounded with, or interspersed among, bundles of hairs. (The appendages, bearing the capsules, are generally digitate, and occupy the summit of the frond.) 55. 5—(one-sided fern.)

LYGODIUM. Capsules covered with a scale-like veil, in two series, radiate-striated or wrinkled, opening on the inner side from the base to the summit; they are situated upon spikelets which proceed from the margin of the frond, each capsule being hid under a scale which falls off frequently in ripening; spikelets mostly unilatural. 55. 5—(fringed fern, climbing fern.) *S.*

C. *Capsule without a ring—being adnate at the base, sub-globose, coriaceous, not cellular, somewhat 2-valved.*

OPHIOGLOSSUM. Capsules round, 1-celled, opening transversely; they are placed on a somewhat jointed spike in two close rows. 55. 5—(adder tongue fern.) *S.*

BOTRYCHIUM. Capsules coriacceous, globose: 1-celled, smooth, adnate to each rachis of a compound raceme, (panicle,) separate, valves 2, connected behind, opening transversely. 55. 5—(grape fern.) *S.*

Southern.

PSILOTUM. BERNHARDIA. Capsules 3-grained, 3-celled; cells opening above: half 2-valved: fruit in spikes. 55. 5. *S.*

D. *Sub-order,* APTERES—*without pinnate, pinnatifid, or other winged, leaves.*

LYCOPODIUM. Capsules mostly kidney-form or roundish, 2 or 4-valved, opening elastically; they are placed under separate scales in a spike, or sometimes in the axils of leaves. (Very leafy, their stems being generally covered with 2, 3, or 4 rows of narrow, simple, entire leaves. 55. 5—(ground-pine.) *S.*

EQUISETUM. Fruit placed under peltate polygons, being pileus-like bodies, which are arranged in whorls, forming a spike-form raceme: 4 to 7 spiral filaments surround the seed (probably,) which resemble green globules. (Fertile plants mostly leafless; the stems of all are jointed with toothed sheaths at every joint, and usually longitudinally striated and hollow.) 55. 5—(scouring rush, horsetail.) *S.*

ISOETES. Capsules membranaceous, 1-celled, not dehiscent: fruit-dots heart-ovate, immersed in a swelling, or tuberosity, at the base of the linear, sub-articulate, grass-like frond: seed angular, attached to numerous cross-bars within the capsule. 55: 5—equill-wort.)

AZOLLA. Monoecious. Staminate? appendages by pairs, contiguous: involucre sub-globose, resembling a 1-celled capsule: seeds numerous, naked. 55. 5. *S.*

SALVINIA. Involucre imbricate, 4 to 9, connate, resembling a 1-celled capsule: seeds inserted on a central receptacle. 55. 5.

REMARKS

Plants of the five lower orders of the Class CRYPTOGAMIA, are not made the subject of analysis in schools, so frequently as those of all other orders. I have, therefore, removed the Genera, as well as the Species, to the ends of the respective series. As they are quite as interesting and instructive in a physiological view, I shall give a full account of each order, where I treat of the Natural Method.

ORDER II. MUSCI;

ARRANGED ACCORDING TO BRIDEL.*

First Division. Capsules without peristomes.

SPHAGNUM. Base of the calyptre remains attached to the capsule, after the upper part has fallen off.

PHASCUM. Capsules terminal, without an opening. Calyptre bell-form, halved, subulate, minute.

GYMNOSTOMUM. Capsules terminal. Calyptre cowled or halved, subulate, caducous.

SCHISTIDIUM. Capsules terminal. Calyptre mitre-form, or bell-conic, split at the base into many subequal divisions.

ANOECTANGIUM. Capsule lateral. Calyptre halved, subulate.

Second division. Capsules with peristomes.

A. *Mouth surrounded by a single peristome: fruit terminal.*

1. *Teeth solitary, free* (disconnected) *at the base, entire.*

TETRAPHIS. Teeth of the peristome 4, pyramidal: calyptre mitre-form, split into many divisions at the base.

GRIMMIA. Teeth of the peristome 16, pyramidal, easily reflexed: calyptre mitre-form.

WEISSA. Teeth of the peristome 16, erectish, narrow, imperforate: calyptre halved, subulate.

TREMATODON. Teeth of the peristome 16, lance-linear, perforate: germ nodding, with a long horn-like epophysis at the base: calyptre cowled.

2. *Teeth solitary, free at the base, split from the apex towards the base.*

DICRANUM. Teeth of the peristome 16, inflexed, 2-cleft, the divisions equal: calyptre hood-form.

CAMPYLOPUS. Teeth of the peristome 16, 2-cleft, sub-perforate: calyptre mitre-form, torn-fringed at the base.

TRICHOSTOMUM. Teeth of the peristome 16, split even to the base into 2, 3 or 4 parts, divisions filiform: calyptre halved, hood-form.

CALYMPERES. Teeth of the peristome 16, short, split; mouth closed

*Arranged, with few exceptions, according to the Methodus Muscorum A Sam. Eb a Bridel.

Mosses may be gathered whenever the capsules have arrived to their usual size. But they must be put in a closet, until the lids of the capsules become reddish-brown, before they are examined. Then the lids may be removed, and the teeth examined.

by a spongy membrane: calyptre large, mitre-form, involving the capsule: at length laterally split.

3. *Teeth solitary, twisted together like a rope at the top.*

BARBULA. Teeth of the peristome 16 or 32, capillary, somewhat connected at the base, and spirally twisted at the top; calyptre hood-form.

SYNTRICHIA. Teeth of the peristome 16 or 32, twisted spirally in the form of a spike, and arising from a broad reticulate membrane: calyptre hood-form.

4. *Teeth approach each other, or unite, in pairs.*

DIDYMODON. Teeth of the peristome 32, they approach each other in pairs, but remain distinct: calyptre hood-form.

SPLACHNUM. Teeth of the peristome 16, attached to each other in pairs so that they can hardly be separted without lacerating their cuticles, reflexed, and at length close pressed to the back of the capsule; the capsule has an apophysis: calyptre bell-form, with a sub-lacerated base.

B. *Mouth surrounded by a double peristome* (except 2 species of Orthotrichum;) *fruit terminal.*

ORTHOTRICHUM. Peristome single or double. *When single*, the teeth are 16, arranged in pairs; after the falling of the lid they are reflexed. *When double*, the outer teeth are as when single, and the inner teeth are 8 or 16, linear, distant: calyptre conic or bell-form, keeled, pilose upwards; rarely glabrous.

ULOTA. Teeth of the outer peristome 16, arranged in pairs, after the falling of the lid they are easily reflexed; teeth of the inner peristome are 8. linear, distant: calyptre conic, smoothish, hairy above, often split into a fringe at the base.

BARTRAMIA. Teeth of the outer peristome 16, wedge-form; the inner peristome consists of a membrane folded into 16 carinate plaits or folds; the divisions are bifid receiving the inflexed apexes of the teeth: calyptre hooded.

BRYUM. Teeth of the outer peristome 16, broadish, acute: the inner peristome consists of a membrane, divided or folded by keel-like furrows, and extended into 16 broadish processes, with ciliate hairs interposed: calyptre hood-form: capsule equal.

ARRHENOPTERUM. Teeth of the outer peristome 16, broadish, acute: the inner peristome consists of a keel-furrowed membrane, split into broad processes, with ciliate hairs interposed: calyptre oblong, laterally sessile: capsule unequal, arcuate, nodding.

MNIUM. Teeth of the outer peristome 16, broadish, ascending or erect, with very long apexes arching outwards; the inner peristome consists of a membrane extended into 16 perforated or forked divisions, ciliate hairs interposed? calyptre acutely conic: capsule unequal, nodding.

TIMMIA. Teeth of the outer peristome 16, broadish, acuminate; the inner peristome consists of a membrane torn into 16 divisions, opposite to the teeth, irregularly perforated and anastomosing, rarely the divisions are alternately free: calyptre laterally fissile.

DIPLOCOMIUM. Teeth of the outer peristome 16, obtuse, short: the

inner peristome consists of 16 ciliate hairs approaching each other in pairs, not connected by any membrane.

Meesia. Teeth of the outer peristome 16, short; the inner peristome consists of ciliate hairs connected wholly by network.

Diphyscium. The outer peristome seems as if almost obliterated, it consists of 16 very minute scales surrounding the mouth of the germ; the inner peristome consists of a conic truncate membrane, in 16 plicate folds, which alternate with the scales.

Buxbaumia. Peristome three. Teeth of the outer peristome 16, truncate, very short, unequal, fugaceous: the two inner peristomes consist of sub-conical membranaceous cylinders, constructed of filaments laterally adheiring together, and torn at the top: the innermost is the longest, folded in 16 plaits and dehiscent at the apex.

Funaria. Teeth of the outer peristome 16, cohering together at the apex and twisted obliquely; the inner peristome consists of 16 membranaceous cilia opposite to the teeth, lying flatly.

C. *Mouth surrounded by a single peristome; fruit lateral.*

1. *Teeth entire.*

Pterigynandrum. Teeth of the peristome 16, equally distant, acute, erectish: calyptre hood-form, glabrous.

Lasia. Teeth of the peristome 16, equally distant, acute, erect: calyptre hood-form, pilose above.

2. *Teeth split.*

Leucodon. Peristome a membrane divided into teeth, each of which is split almost to its base: calyptre hood-form.

D. *Mouth surrounded by a double peristome; fruit lateral.*

1. *Teeth of the inner peristome free at the base.*

Neckera. Teeth of the outer peristome 16, erect, free; cilia of the inner peristome alternate with the teeth (rarely opposite); calyptre hood-form, glabrous.

Cryphaea. Teeth of the outer peristome 16, erect, free; cilia of the inner peristome alternate with the teeth: calyptre mitresform, or conic, glabrous.

Pilotrichum. Teeth of the outer peristome 16, erect, free; cilia of the inner peristome alternate with the teeth: calyptre mitre-form, or conic, hirsute.

2. *Teeth of the inner peristome connected by a membrane at the base.*

Climacium. Teeth of the outer peristome 16, acute; inner peristome consists of cilia, arising from a very short membrane, which are united at the apex in pairs by transverse bars.

Leskea. Teeth of the outer peristome 16, subulate, inflexible; inner peristome consists of a membrane extended into 16 linear uniform processes: calyptre hood-form.

Pterigophyllum. Teeth of the outer peristome 16, lance-linear; inner peristome consists of a membrane split into 16 linear uniform (rarely deformed) processes: calyptre mitre-form, entire, glabrous.

Hypnum. Teeth of the outer peristome 16, acute, reflexile; inner pe-

ristome consists of a membrane extended into 16 processes, with smaller capillary ones interposed: calyptre hood-form, glabrous.

3. *Inner peristmoe without teeth or cilia.*

Fontinalis. Teeth of the peristome 16, broadish, acute, erect; inner peristome a reticulate conic membrane.

E. *Mouth surrounded by a single peristome; fruit arises from the duplicature of a leaf.*

Fissidens. Peristome simple: teeth 16, 2-cleft, broadish, inflexed: the divisions somewhat unequal diverging.

F. *Mouth closed by a horizontal membrane.*

Polytrichum. Peristome very short; teeth 16, 32, or 64: mouth of the germ covered by a dry membrane, which is connected to it by the teeth of the peristome: calyptre very small with a large villose or hairy covering.

Catharinaea. Peristome very short; teeth 32 or 64: mouth of the capsule covered by a dry membrane: calyptre glabrous or hirsute, with scattering hairs.

ORDER III. HEPATICAE.

Blazia. Capsule 1-valved with no elevations of the seeds upon the columella (as in Anthoceros) crowned with a tube opening outwardly at the apex.

Targionia. Perianth-like organ globose, arising from the under side of the extremity of the frond; at length opening vertically into two valves: capsule globose, sub-sessile, included in the perianth, opening irregularly at the extremity and filled with spiral filaments.

Sphaerocarpus. Calyxes numerous, large, fascicled, in a minute frond, globe-turbinate, reticulate, sub-diaphanous, perforated at the apex including the capsule, which is sessile at the bottom of the calyx, and spherical: seeds numerous, sub-globose, sharp-muricate: frond reticulate, sub-diaphanous, of the substance of the calyx and very green.

Carpobolus. Capsules round-oblong, compressed, tapering, cleft or dehiscent at the apex: seeds minute, globose, free among each other: calyx largish, 2-cleft: frond round-oblong, with folds converging towards a center; margins elevated, crenate.

Riccia. Capsules sub-globose, imbedded in the frond, not dehiscent; furnished with a short tube, scarcely prominent, becoming brownish and perforated at the apex. This aquatic genus has the habit of the most succulent and tender lichens.

Anthoceros. Capsules long, horn-form, subulate, longitudinally dehiscent into 2 valves when mature; imbedded and nourished in a linear fleshy receptacle: after the opening of the capsule seeds appear attached to a columella. Around the fleshy receptacle (or perhaps calyx) within the substance of the frond, appear heaps of reddish bodies resembling anthers. The substance of the frond is made up of hexahedral cells. In habit this genus resembles mosses.

Marchantia. Receptacles pedicelled, radiate-lobed, disk-like or bell-form, with the inside downwards, to which the globose 4-valved capsules are attached, with their apexes downward. The umbrella-like re-

ceptacle is elevated one or two inches by a stipe attached to the centre of its lower side, among the capsules and many pilose appendages. The frond is leafy, reticulate, furnished with a midrib, and beset with villose roots on the under side which attach themselves to stones in brooks, to damp earth, &c.

JUNGERMANNIA. Capsules 4-valved, globose, elevated by peduncles or stipes from within a bell-form calyx. The fronds are made up of finer leaves than those of the Marchantia, and are often misteken for mosses among which they generally grow.

ORDER IV. ALGAE.

ARRANGED ACCORDING TO AGARDH.

TRIBE I. DIATOMEAE.

Bodies of various forms, flat and crystalline, and separating into fragments.

DIATOMA. Filaments jointed, hyaline, rigid, simple, united in pairs longitudinally, at length separating into articulations cohering by their alternate angles.

TRIBE II. NOSTOCHINAE.

Individuals numerous, globular or filiform, suspended in a gelatine of a definite form.

PALMELLA. Minute or small, somewhat diaphanous gelatinous plants: filled with solitary granules unmixed with filaments.

ALCYONIDIUM. A spongy, fleshy, lobed frond, filled with granules. Marine.

NOSTOC. Plants roundish or shapeless, gelatinous. Substance composed of curved, moniliform, simple filaments, lying irregularly in a gelatinous nidus.

RIVULARIA. A gelatinous sub-globose frond, filled with filaments, radiating from a common centre, continuous, placed on a globule, and marked with annulations inside.

TRIBE III. CONFERVOIDEAE.

Filaments jointed either externally or internally, separate, and not combined in any definite form.

TRENTEP'HOLEA. Filaments flexible, colored, bearing capsules, which generally proceed from the last articulation which is inflated. Inundated or fluviatile.

SCYTONEMA. Plant not gelatinous, coriaceous. Filaments short, forming dark dense tufts, beaded internally, or filled with annular transverse bodies. On rocks or inundated, rarely marine.

MESOGLOIA. Frond filiform, cylindrical, gelatinous, with compact, somewhat moniliform branches radiating from a medullary pith, and bearing capsules.

BATRACHOSPERMUM. Frond filiform, gelatinous, sending out from the primary filament moniliform gemmiferous branches.

DRAPARNALDIA. Filaments green, jointed, very gelatinous. Ramuli

pencillate fascicled. Fructification—a granular mass in the articulations of the main filaments.

Syngbya. Filaments without a mucous matrix, freely floating, flexible, motionless with a continuous tube, annulated inside.

Bangia. Filaments capillary, mostly simple, tubular, continuous. Fructification—granules disposed in regular transverse series or strata.

Zygnema. Filaments jointed, simple, gelatinous, compressed, fragile, separating at the joints.

Mougeotia. Filaments articulated, connected like a net, with irregularly placed granules, and thecae attached to the angles of the meshes.

Conferva. Filaments uniform, jointed, membranaceous, simple or branched, mostly green. Fructification; granules scattered in the articulations. Salt and fresh water.

Ceramium. Filaments jointed, sub-dichotomous, red, articulations veined or diaphanous. Fructification; capsules with an involucre of short ramuli. Marine.

Polysiphonia. Filaments jointed, longitudinally striated, with internal parallel tubes. Fructification; double ovate capsules, and granules in swollen branchlets. Marine.

Ectocarpus. Filaments jointed, much branched, fuscous. Fructification; lanceolate pods or ovate capsules solitary or racemose. Marine.

Sphacellaria. Filaments jointed, branched, olivaceous, distichous or dichotomous; apex of the branches sphacellate or hyaline, abrupt. Fructification is granules in the mortifying apex, or capsules. Marine.

Tribe IV. Ulvaceae.

Frond, membranous, continuous, tubular or flattened, never ribbed, herbaceous rarely purple: seed heaped or scattered granulations.

Vaucheria. Filaments dichotomous or irregularly branched, somewhat rigid. Fructification; a granulated mass within the frond, and external dark vesicles variously sinuated.

Codium. Frond spongy, of a determinate figure, formed of filaments densely packed, which are tubular and continuous, and colored by a granular, green powder. Coniocystas clustered at the surface of the frond.

Solenia. Frond tubular, membranous, with a striated, areolated surface. Seeds very minute and compact.

Ulva. Root scutate. Frond plane, ribless, flabellaform or wedge-shaped, or linear and dichotomous. Fructification naked immersed; granules distributed in fours throughout the frond.

Porphyra. Frond flat, purple, with the membrane of equal texture. Fruit two fold; first sori of oval seeds collected in a disorderly manner: second, two parrallel lines marked on each side by a globule.

Tribe V. Florideae.

Frond coriaceous rarely membranaceous, flat or filiform, continuous, purple or pink: seeds purple, included in capsules or clustered in dots.

Ptilota. Root scrutate. Fronds compressed or plane, pinnate. Fructification; a cluster of naked granules surrounded by a linear cleft involucre.

RHODOMELA. Frond either flat or foliaceous, and somewhat ribbed or filiform. Fruit two-fold; first lomenta filled longitudinally with globules of sporaceous matter, second, capsules with a few pyriform seeds sessile in the capsule (blackish when dry.)

CHONDRIA. Frond continuous, gelatinus-cartilaginous. Fructification double; naked granules immersed in the substance of the ramuli and external tubercles.

SPHAEROCOCCUS. Root scutate. Frond sub-membranaceous or cartilaginous. Fructification uniform; tubercles or capsules.

HALYMENIA. Frond flat or tubular, somewhat membranous. Fruit, dot-like tubercles half immersed in the laminæ of the frond.

DELESSERIA. Root scutate. Frond plane, membranaceous, with or without ribs. Fructification double, tubercles and clusters of naked immersed granules.

TRIBE VI. FUCOIDEAE.

Frond coriaceous, continuous, olive-green, flat or filiform: seed black, in capsules, bordered or immersed.

LEMANEA. Frond filiform, torulose, tubular. Chains of seeds adhering to the inner surface of the filament, pencilled, moniliform. In fresh water.

CHARDARIA. Root scutate. Frond filiform, of an olive color and cartilaginous substance. Fructification; clavate, pyriform, concentric filaments constituting the whole frond.

SCYTOSIPHON. Root scutate. Frond filiform, tubular, sub-coriaceous. Fructification: naked pyriform granules covering the whole frond.

SPORACHNUS. Root mostly scutate. Frond plane, with distichous branches, bearing, in most instances, delicate pencil-like deciduous tufts of confervoid filaments. ("Receptacles composed of concentric, clavate, articulated corpuscles.")

ZONARIA. Root downy. Frond plane, ribless, flabelliform or wedge-shaped, or linear and dichotomous. Fructification; adnate tubercles collected into parallel lines on the frond.

LAMINARIA. Root fibrous. Stipes dilated into a plane frond. Fructification, naked granules immersed and forming irregular groups in the frond.

LICHINIA. Fronds minute, tufted, greenish-black when growing. Fructification, solitary tubercles with a pore, at length scutelliform.

FURCELLARIA. Frond cylindrical. Fructification concealed in the swollen extremities of the frond, capsules in the centre, and pyriform granules in the circumference.

FUCUS. Root scutate. Frond plane or compressed, (rarely filiform) dichotomous. Fructification, tubercles contained in a common mucose receptacle, and filled with seeds and filaments.

CYSTOSEIRA. Root scutate. Stipes cylindrical. Lower leaves plane upper ones filiform, furnished with pinnate vesicles. Fructification, tubercles in common receptacles, the receptacles with several loculaments.

ORDER V. LICHENES;

ARRANGED ACCORDING TO ACHARIUS.

TRIBE I. IDIOTHALAMI.

Apothecia differing in color from the rest of the plant, and formed of a distinct substance.

§ 1. *Apothecia simple, entirely formed of a sub-reniform, pulverulent, or cartilaginous substance.* HOMOGENII.

* Apothecia destitute of a raised margin.

SPILOMA. Plant crustaceous, spreading, plane, adnate, and uniform. Apothecia composed of minute bodies, collected into a compact, homogeneous, sub-pulverulent, naked, and shapeless, colored mass.

SOLORINA. Plant foliaceous, coriaceous, lobed, separate beneath, and veiny or fibrous, with down. Recept. adnate, roundish, not edged, covered by a colored membrane, and containing a solid, cellular, bladdery parenchyma.

* * Apothecia with a raised border.

LECIDIA. Plant various, crustaceous, spreading, adnate, uniform or foliaceous. Apothecia scrutelliform, sessile, surrounded by a cartilaginous membrane; the disk of the same nature as the raised border.

CALICIUM. Plant crustaceous, plane, spreading, adnate, uniform. Apothecia cup-shaped, sessile or stipulate, cartilaginous, containing a compact pulverulent mass, plane or convex, and forming a naked disk.

GYROPHORA. Plant foliaceous, coriaceous, or cartilaginous, peltate, mostly monophyllous, free beneath. Apothecia sub-scutelliform, sessile, or adnate, covered with a black cartilaginous membrane; the disk warty or plaited on circles, or bordered.

§ 2. *Apothecia sub-simple, included, formed of a single covering, containing a capsular body or nucleus.* HETEROGENII.

ENDOCARPON. Plant crustaceous, adnate, of some determinate figure, or foliaceous and peltate. Apothecia globose, concealed in the substance of the plant, surrounded by a thin membrane, furnished with a slightly prominent orifice, and containing a nucleus.

TRIBE II. CŒNOTHALAMI.

Apothecia partly formed from the substance of the plants.

§ 1. *Apothecia included in wart-like processes, formed from the substance of the plant.* PHYMATOIDEI.

THELOTREMA. Plant crustaceous, cartilaginous, plane, spreading, adnate, uniform, with wart-like receptacles, furnished with a wide pore, and bordered. Apothecia included, and containing a nucleus within a double covering.

PYRENULA. Plant crustaceous, plano-expanded, adnate, uniform. Recept. wart-like, formed of the thallus, enclosing or surrounding at

the base a solitary thalamium, with a simple, thick, papillose perithecium, containing a globose cellular nut.

VARIOLARIA. Plant crustaceous, plane spreading, adnate, uniform. Apothecia wart-like, formed from the crust (resembling Soredia,) submarginate, white including a naked nucleus.

§ 2. *Apothecia scutelliform, sub-sessile, the disk of a peculiar color different from the border, which is formed from the crust.* DISCOIDEI.

URCEOLARIA. Plant crustaceous, spreading, adnate, uniform. Apothecia shield-like, the disk concave, colored, immersed in the crust; border formed from the crust, and the same color. 428—i.

LECANORA. Plant crustaceous, spreading, adnate, plane, uniform. Apothecia shield-like, thick, adnate, and sessile, the disk plano-convex, colored; border thickish, somewhat free, formed from the crust, and the same color.

PARMELIA. Plant foliaceous, between coriaceous and membranaceous, spreading, appressed, orbicular, lobed, and stellate, variously divided, fibrous beneath. Apothecia shield-like, attached by a central point; the disk concave, colored, with a border formed from the crust.

BORRERA. Plant cartilaginous, branched, and laciniate; the segments free, channelled beneath, and cillate at the margin. Apothecia shield-like, with a colored disk; the border formed from the frond.

CETRARIA. Plant cartilagino-membranaceous, ascending, or spreading, lobed, smooth, and naked on both sides. Apothecia shield-like, obliquely adnate with the margin, the disk colored, plano-concave; border inflexed, derived from the frond. 233—i.

STICTA. Plant foliaceous, coriaceo-cartilaginous, spreading, lobed, free and pubescent beneath, with little cavities or hollow spots. Apothecia shield-like, fixed by a central point, the disk colored, plane; border formed from the crust.

PELTIDEA. Plant foliaceous, coriaceous, spreading, sub-adnate, lobed, with woolly veins beneath. Apothecia orbicular, adnate, on produced portions of the frond, the disk colored: border very thin, formed from the frond.

NEPHROMA. Plant foliaceous, coriaceous, membranous, expanded, lobed, beneath separate, and naked or villose. Recept. resupinate, formed of the ascending lengthened lobes of the thallus. Fertile laminae reniform, entirely attached to the thallus and its lower side, and surrounded by an elevated inflected margin.

ROCCELLA. Plant coriaceous, cartilaginous, branched, lacinated, round or flat, erect or pendulous, woolly inside. Recpt. shield-like, thick, growing into the thallus. Fertile lamina forming a disk, plano-convex, colored, and cartilaginous, in the inside hyaline, and of a similar nature, surrounded by a margin, which is elevated, sessile, and as deep as the disk, and which contains a compact, black powdery mose, which is hidden within the substance of the thallus.

EVERNIA. Plant branched, lacinate, angular, or compressed, suberect, or pendulous, with a central filament within. Apothecia shield-like, sessile, the disk concave, colored; border formed from the frond.

§ 3. *Apothecia sub-globose, terminating the branches or podetia, or scattered sessile and emarginate.* CEPHALOIDEA.

* Apothecia covered by the mass of fructification.

CENOMYCE. General receptacle sub-cartilaginous, foliaceous, lacinate sub-imbricate, free, (rarely adnate, uniform, or wanting.) Apothecia or podetia orbicular, immarginate, at length capituliform, bearing thick colored masses of fructification.

BÆOMYCES. Plant crustaceous, spreading, plane, adnate. Apothecia on short, soft, solid, simple podetia, capituliform, solid, emarginate, colored, convex, reflexed at the margin. 201—i.

ISIDIUM. Plant crustaceous, plane, spreading, adnate, uniform. Apothecia on short, soft, solid, simple podetia, orbicular, convex, solid, terminal; the disk sub-immersed, having a border formed from the substance of the podetia.

STEREOCAULON. Plant shrubby. cartillaginous, branched. Apothecia turbinate, sessile, solid, plane above, at length sub-globose, with a border formed from the frond.

** *Apothecia clothed with the substance of the frond, and containing a pulverulent mass.*

SPHÆROPHORON. Plant cartilaginous, fibrous within, solid, shrubby, branched. Apothecia sessile, terminal, sub-globose, bursting irregularly, and containing a black, globular, pulverulent mass.

TRIBE III. HOMOTHALAMI.

Apothecia entirely formed of the substance of the frond.

ALECTORIA. Plant cartilaginous, sub-filiform, fibrous, and somewhat fistulose within, branched, prostrate or pendulous. Apothecia shield-like, thick, sessile, bordered, wholly formed from the frond.

RAMALINA. Plant cartilaginous, fibrous, and nearly solid within, branched somewhat shrubby, mostly soderiferous. Apothecia shield-like, thick, sub-pedicellate and sub-peltate, plane, bordered, wholly formed from the substance of the frond.

CORNICULARIA. Plant cartilaginous, fibrous and nearly solid within, branched, shrubby. Apothecia orbicular, terminal, obliquely peltate, at length convex, somewhat inflated; the border dentate.

USNEA. Plant much branched, filiform mostly pendulous, furnished within with a bundle of elastic fibres. Apothecia orbicular, terminal, peltate. often ciliate at the border.

COLLEMA. Plant sub-gelatinous, homogeneous, crustiform, foliaceous, or somewhat branched, membranaceous or cartilaginous when dry. Apothecia shield-like bordered, formed from the substance of the frond; the disk sometimes differing in color when dried.

TRIBE IV. ATHALAMI.

Lichenes destitute of Apothecia, and whose fructification is unknown.

LEPRARIA. Whole plant crustaceo-pulverulent, spreading, adnate, uniform. Apothecia unknown.

Tribe V. Pseudo-Lichenes.

Apothecia black, corneous, imbedded in a receptacle. Seeds in slender tubular cells, lying in a pulp, not spontaneously emitted.

Opegrapha. Plant crustaceous, flat, expanded, adnate, uniform. Receptacle oblong and elongated, sessile, covered with a cartilaginous dark membrane, enclosing a solid parenchyma. Disk linear, edged on each side.

Verrucaria. Plant crustaceous, plane, expanded, adnate, uniform. Recpt. hemispherical, roundish at the base, growing into the thallus, with a double perithecium; exterior somewhat cartillaginous and thick, having alone a little pimple or perforation; inner very fine, and membranous. Kernel cellular.

Porina. Plant crustaceous, cartilaginous, plano-expanded, adnate, uniform. Recept. wart-like, formed out of the thallus, and not margined. Thalamium imbedded in the substance of the wart, with a simple very thin perithecium, and a colored orifice thicker at the surface of the wart. Kernel roundish, cellular.

Arthonia. Plant crustaceous, plano-expanded, adnate, uniform. Recept. innate, sessile of an irregular roundish figure, without an edge, covered by a somewhat cartillaginous membrane, and containing a solid uniform kernel.

Graphis. Plant crustaceous, plano-expanded, adnate, uniform. Recept. long, immersed in the thallus, with a simple cartillaginous perithecium, which forms an edge all round the linear kernel, which is naked at top and bottom, and cellular inside.

ORDER VI. FUNGI;

Arranged according to Fries of Sweden.*

Agaricinae.

Seed-bed distinct. Receptacle longer or expanded, superior.

Pileate.

Receptacle dilated, occasionally branched, having a tendency to an orbicular form. Seed beds inferior.

Agaricus. Seed-beds in lamellæ. Lamellæ simple, parallel.

Cantharellus. Seed-bed veined. Veins dichotomous, sub-parallel: sometimes anastomosing.

Merulius. Seed-bed veined. Veins flexuose, or forming very irregular pores. Plants sessile, resupinate or effused.

Schizophyllum. Seed-beds in lamellæ. Lamellæ bifid lengthwise, revolute.

Dædalea. Seed-bed sinuous, composed of anastomosing lamellæ or flexuose elongated pores.

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*According to Schwinitz, a system of Fungi and Lichenes for Germany. Sweden, &c., is a system for N. America; on account of their similarity. I am indebted to Loudon for Fries' system; also for many other improvements in this order.

POLYPORUS. Seed-bed porous, not separable from the substance of the pileus, nor the pores from each other. Pores sometimes lacerated in age. Pileus very rarely with a central stipe.

FAVOLUS. Pores ample, with four or six angles resembling an honeycomb.

BOLETUS. Seed-bed tubular. Tubes separable from the pileus and from each other. Pileus always with a central stipe.

FISTULINA. Seed-bed tubular. Tubes loose, the young ones closed.

HYDNUM. Seed-bed subulate, subulæ loose.

SISTOTREMA. Pileus carnose, irregularly stipitate. Seed-bed composed of dedtate interrupted lamellae.

PHLEBIA. Seed-bed rugose, formed of long or confluent papillæ.

THELEPHORA. Plants with very few exceptions more or less adnate, thin, coriaceous, very rarely funnel-form. Seed-bed covering the outer surface.

Clavati.

Receptacle long, simple, or branched, with a tendency to a cylindrical form, not margined. Seed-bed superior.

CLAVARIA. Plants carnose, cylindrical, simple or branched. Seed-bed smooth, occupying almost the whole surface, confluent with stipes.

CALOCERA. Plants branched or simple, cylindrical, homogeneous, corneous, gelatinous, viscid. Growing on wood.

GEOGLOSSUM. Seed-bed short, club-shaped, mostly compressed, stipitate. Stipes elongated, smooth or hairy. Plants black or dull green.

SPATULARIA. Seed-bed club-shaped, separate, compressed, running down the stipes on each side, bearing the asci at the upper end.

MITRATA. Seed-bed clavate, ovate, closely surrounding, at the base, the stipe which is distinct.

TYPHULA. Seed-bed thin, subcylicdrical, persistent, terminating the capillary stipes.

PISTILLARIA. Simple contiguous, linear or clavate. Seeds emerging at the end.

Elvellacea.

Hymenium distinct, superior, margined. Receptacle urceolate or reflexed, always inferior.

MORCHELLA. Pileus lacunose, confluent with the stipes either at the margin or a little above it. Seed-bed occupying the whole outer surface.

VERPA. Pileus conical-deflexed, equal. Seed-bed smooth or rugose.

LEOTIA. Pileus ovate-conical or orbicular, wholly occupied by the seed-bed, the margin free but closely embracing the stipes.

Receptacle cupulate, equal. Seed-bed discoid, when young somewhat closed, surrounded by the margin of the receptacle.

PEZIZA. Pileus mostly carnose, sessile or stiptiate, more or less cup-shaped at length. Sometimes plane. Seed-bed occupying the disk.

BULGARIA. Cupula closed at first. Seed-tubes immersed with paraphyses, becoming separate and bursting out. Gelatinous.

DITIOLA. Seed-bed becoming plaited and deliquesent. Cupula open. Veil universal. Corky.

CENANGIUM. Seed-bed smooth, persistent, rarely deliquescent. Cupola closed, but opening finally. Somewhat coriaceous.

STICTIS. Seed-bed smooth, immersed. Cupola obliterated. Seed-bed persistent.

Tremellini.

TREMELLA. Receptacle gelatinous homogenous, fructifying in all directions, without papillae. Seeds nearly emerging.

EXIDEA. Receptacle gelatinous, homogeneous, covered on the upper surface only by a papillose hymenium. Seeds emitted with elasticity.

DACRYMYCES. Receptacle gelatinous, homogeneous, filled with assurgent flocci, and seeds placed in layers inside. When young, compact, but finally deliquescent.

AGYRIUM. Receptacle spherical, smooth, compact, waxy, when humid, gelatinous, finally crumbling away in seeds.

HYMENELLA. Receptacle flattened, adnate, smooth, like soft leather, very thin, persistent.

NAEMATELIA. Receptacle gelatinous, surrounding a compact heterogeneous nucleus. Seeds emerging.

ACROSPERMUM. Elongated, somewhat clavate, with a coat of a similar substance, distinctly fructifying at the end.

SCLEROTIUM. Sub-globose, or without regular form within, homogeneous, vesiculose, carnose, or corneous. Sporules unknown.

PERIOLA. Rootless, fleshy, covered entirely by a villous persistent coat.

ACINULA. Rootless, smooth, with a distinct farinaceous granular coat.

ERYSIPHE. Sporangium epiphyllous, very minute, globose, furnished with white radiating subjacent filaments, and containing sporuliferous bodies.

PHALLUS. Stipes issuing from a volva. Pileus furnished with large cells filled with a sporuliferous shining substance.

TUBER. Envelope closed, marbled with veins inside. Sporangia stalked, scattered among the veins. Subterraneous.

RHIZOPOGON. Envelope sessile, bursting with irregularity with anastomosing veins inside. Sporangia sessile. Above ground.

NIDULARIA. Common peridium simple, flocculent, furfuraceous, disappearing. Sporangia globose, with seeds in heaps in the middle.

MYRIOCOCCUM. Peridium simple, flocculent, furfuraceous, disappearing. Sporangia globose, with seeds in round heaps.

POLYANGIUM. Peridium simple, membranous. Sporangia oblong, filled with a grumous mass.

Carpoboli.

Envelope protruding a solitary separate sporangium.

ATTRACTOBOLUS. Peridium cupulae-form, with a lid. Sporangium fusiform, with mucous seeds.

THELEBOLUS. Peridium sessile, urceolate-ventricose with an entire orifice. Sporangium papillae-form with mucous seeds.

PILOBOLUS. Stipes or receptacle pellucid, watery. Peridium roundish vesicle, bursting elastically, placed on the apex of the receptacle.

SPHAEROBOLUS. Peridium double, both stellate; the inner membran-

ous by inversion throwing out with elasticity a globose sporangium, bearing in the middle heaped seeds.

PYRENOMYCETES.

Envelope genuine, forming the receptacle. Seeds disposed in seed-tubes in regular rows.

Sphaeriacei.

SPHAERIA. Receptacle 0. Spherules sessile or slightly immersed.

LOPHIUM. Perithecium vertical, compressed, dehiscing by a longitudinal somewhat closed cleft. Seed tubes crumbling away.

Cytisporei.

SPHAERONEMA. Perithecium opening by a pore, enclosing in a very thin bag some mucous seeds, which burst forth and become indurated in a globose form. Naked.

SEPTARIA. Cloud-like spots on dead leaves: seeds with partitions, or septa.

CYTISPORA. Cellular—many-celled; cells deformed, membranous, united at the ends. Nucleus gelatinous, filled with sporules, propelled through the common elongated orific.

PHOMA. Nucleus grumous, enclosed in a tubercle. Seeds emitted by a simple orifice without regularity.

Phacidiacei.

Perithecium finally bursting, with an open disk. Seed tubes erect, fixed.

DOTHIDEA. Nucleus enclosing immersed cellules. True perithecium obliterated. Seed-tubes erect, remaining for a long time.

RHYTISMA. Perithecium deformed, bursting into transverse fragments by means of a flexuous crack.

PHACIDEUM. Receptacle 0. Perithecia sessile, depressed, bursting from the centre towards the circumference in several acute segments. Sporuliferous cells elongated, fixed.

HYSTERIUM. Perithecia mostly oblong, black, corneous, bursting by a longitudinal slit. Sporuliferous tubes erect. (Crust none.)

Xylomacei.

Seed-tubes obsolete. Seeds innate.

ACTYNOTHYRIUM. Perithecium buckler-like, with radiating fibres covering the fusiform seeds.

LEPTOSTROMA. Perithecium uniform, without an orifice, but entirely separating and exposing a very thin disk.

Trichospermi.

ENVELOPE GENUINE, FORMING A RECEPTACLE. SEEDS INTERMIXED WITH FLOCCI.

Lycoperdinei.

Envelope of a determinate figure, fleshy when young. Flocci copious.

ONYGENA. Sub-globose with a fibrous stipe. Peridium crustaceous, fragile, with interwoven fibres. Sporules naked, compactly clustered.

TULOSTOMA. Globose stipitate. Involucrum none. Peridium opening by a bordered pore in the summit. Sporules scattered in it.

SCLERODERMA. Sporangium globose or prolonged into a stipe. Peridium single, coriaceous, mostly warty, bursting at the apex or sub-dehiscent. Seeds connected into little contiguous distinct globules mixed with filaments.

LYCOPERDON. Sporangium globose. Peridium single, membranaceous, scaly, with warts or soft spines bursting irregularly at the apex, and containing a mass of seeds and filaments.

BOVISTA. Sporangium globose. Peridium double; the outer one adnate; cracking, somewhat fugacious; inner one bursting at the apex, and containing a mass of filaments and pedicellated seeds.

GEASTRUM. Globose sessile. Involucrum coriaceous, stellate. Peridium membranous. Seeds on stalks from the first.

Trichocisti.

Envelope regular, when young pulpy. Seeds having numerous flocci scattered among them.

CRATERIUM. Peridium oblong, stipitate, operculate, containing a cellulose, filamentuous, sporuliferous mass.

STEMONITIS. Cylindrical or sub-globose. Peridium fugacious. Filaments forming a reticulated mass, perforated by the stipes to which they are attached. Seeds intermixed.

CRIBRARIA. Globose stipitate. Peridium crumbling to pieces entirely or for the most part.

ARCYRIA. Mostly cylindrical. Peridium fugaceous, except a small portion at the base. Filaments abundant, reticulated, fixed at the base. Seeds intermixed.

LEANGIUM. Minute sub-globose or irregular. Peridium single, membranaceous, bursting into sub-regular, persistent, expanding segments. Filaments attached at the base and surrounding a columella.

TRICHIA. Minute sub-globose or irregular. Peridium single, membranaceous, bursting. Filaments involute, attached at the base, and expanding elastically.

PHYSARUM. Sporangium minute, mostly stipitate sub-globose. Peridium single, membranaceous, bursting and deciduous in distinct portions. Seeds mixed with a mass of filaments.

Fuliginoidei.

Envelope somewhat deformed, sessile, when young pulpy, seeds separated by flocci.

LYCOGALA. Sessile globose or sub-irregular, pulpy when young. Peridium single, fragile, variously dehiscent. Seeds mixed with a few filaments.

SPUMARIA. Form irregular, roundish, effused. Peridium soft, at length membranaceous, fragile. Seeds contained in the folds of a branched, elongated, membranaceous, persistent process.

Liceoidei.

Elocci obsolete.

DICHOSPORIUM. Flattened hemispherical. Peridium membranaceous, coated with a layer of granules. Seeds in globose masses.

Licea. Peridum membranaceous, sessile, fragile, inclosing a pulverulent mass of seeds unmixed with filaments. (No subjacent membrane.)

Mucoroidei.

Peridium formed of flocci loosely woven together, vanishing in the middle. Seeds in heaps.

Mucor. Peridium membranaceous, globose stipitate, pellucid, at length opake. Pedicel simple or branched, tubular, articulated.

Thamnidium. Stipes branched at the base; branches bearing solitary globules at their end. Peridium globose-

Ascophora. Peridium membranaceous, stipitate, bursting at length, turned inside out, convex and sub-persistent. Pedicel simple or branched, tubular, pellucid, articulated.

Perisporia.

Persiporium thin, somewhat membranous, bursting. Seeds immersed, scarcely distinct.

Eurotium. Peridia membranous, sub-globose, with an articulated floccose innate receptacle. Seeds naked in masses.

Hyphomycetes.

Cephalotrichi.

Receptacle distinct, covered over with flocci, with seeds scattered among them.

Ceratium. Filaments very short, pellucid, simple, minute, attached to a membranaceous, plicate, simple or branched, filiform receptacle.

Isaria. Filaments minute and pellucid, attached to an elongated, simple or branched, clavate, carnose receptacle.

Stilboidei.

Fibres grown together upon the receptacle. Seeds enclosed in a separate naked head.

Stilbum. Minute. Stipes slender, bearing a little round solid head, which is pellucid and semifluid at first, at length more dense and opake.

Inomycetes.

Fibres genuine, somewhat separated by divisions. Receptacle none. Upon putrescent organic matter.

Byssacei.

Opake fibres, bearing seeds inside, when fertile Jointed, when sterile contiguous. Repel moisture.

Torula. Thallus composed of branched, rigid, fragile, moniliform, sub-opake filaments, the articulations minute, globose.

Monilia. Fibres numerous, erect, opaque, distinctly articulated, permanent. Articulations ovate.

Racodium, Thallus composed of branched, decumbent, interwoven, persistent, sub-opake filaments, among which are sometimes granules of moniliform filaments.

Cladosporium. Thallus composed of erect, rigid, sub-opake, jointed,

simple or branched, aggregate filaments. Seeds ovate, attached in a series to the filaments, deciduous.

HELICOSPORIUM. Fibres erect, rigid, nearly simple, opake. Seeds spiral, remotely jointed, some that are fugacious scattered among them.

OZONIUM. Thallus composed of decumbent, branched, entangled filaments: primary ones thick, irregular; ultimate ones fine-jointed.

Mucedines.

Flocci pellucid, with dissepiments, bearing seeds on the outside.

SEPEDONIUM. Thallus formed of entangled filaments, spreading within putrefying fungi. Seeds scattered, globose. (Bright yellow.)

ACREMONIUM. Thallus composed of decumbent, entangled, branched, pellucid filaments. Seeds globose, solitary, pedicellate.

SPOROTRICHUM. Thallus minute, tufted or expanded. Seeds scattered among the branched, tubular jointed filaments.

TRICHOTHECIUM. Filaments minute, branched, forming a tufted thallus. Seeds scattered, sub-globose, didymous.

BOTRYTIS. Thallus composed of decumbent, entangled, branched, pellucid filaments. Seeds globose, solitary, pedicellate.

ASPERGILLUS. Thallus composed of minute, pellucid, scattered or tufted filaments, apex of the main filament mostly clavate, on which is a head of (often beaded,) seeds.

STACHYLIDIUM. Thallus composed of tufted, pellucid filaments: sterile ones procumbent; fertile ones erect, whorled, with ramuli near the top, among which the seeds are collected.

PENICILLIUM. Thallus composed of tufted pellucid filaments: sterile ones procumbent: fertile ones erect, bearing a terminal pencil-like tuft of erect ramuli, to which the seeds are attached.

TRICHODERMA. Seeds collected in the centre, free, the filaments woven into a web-like covering, at length opening at the apex and discharging the globose seeds.

Phylleriaceae.

Fibres spurious, contiguous, bearing seeds inside. Receptacle none. On living leaves.

RUBIGO. Fibres infundibuliform or clavate, twisted, situated in patches upon sickly leaves.

ERINEUM. Peridea flocciform, sub-diaphanous, various, sub-simple, aggregate-cespitose, parasitic on living leaves. Seeds sometimes, but rarely evident.

Coniomycetes.

Seeds naked, without any heterogeneous receptacle.

Tuberculariae.

Seeds naked, simple, scattered over the receptacle.

EXOSPORIUM. Dots one 36th of an inch in diameter, black, heaped, bursting beneath the cuticle, bristly.

Entophytae.

Seeds naked, separate, without a receptacle.

Stilbosporei.

FUSIDIUM. Thallus plane, effused. Filaments short, branched. Seeds fusiform, scattered.

POLYTHRINCIUM. Black dots, which magnified, are roundish tufts of filaments, smallest near the margin: filaments semitransparent, clavate, articulated, erect, simple.

STILBOSPORA. Black. Receptacle 0, or a pulverulent mass intermixed with naked seeds, the whole bursting through the bark in the manner of a Stromatosphæria.

SPORIDERMIUM. Composed of long-linear or clavate, semi-opake bodies, level-topped, transversely partitioned: under the eye black, on Thelephora, &c.

Hypodermia.

Parasites upon living plants.

UREDO. Epidermis of the leaf forming a pseudo-peridium. Seeds 1-celled, free, mostly globose.

ÆCIDIUM. Peridium membranaceous, bursting through the epidermis, and dehiscent at the apex, with a dentate or lacerate orifice.

PUCCINIA. Epidermis of the leaf forming a pseudo-peridium. Seeds fixed by a pedicel, one or many-celled.

☞ A few genera which have been discovered beyond the Rocky Mountains and Mississippi, after being carefully written, were mislaid and left out. Such as PITCHERI, PICKERINGIA, BARTONIA, &c. These will be described in connexion with the species.

NORTH AMERICAN PLANTS.

SPECIES,

ACCORDING TO AN ALPHABETICAL ARRANGEMENT OF THEIR RESPECEIVE GENERA.

A.

Abies, PINUS.

15—10. ACA'CIA. 33. 93.

Southern.

farnesia'na, (black thorn. W. y. ♄.) spinous: leaves bipinnate; leafets 8-paired: spikes globose, sessile. Flowers fragrant, legumes fusiform. 10 f. New Orleans.

la'tea, Leavenworth. (W. y. Ju. 2ſ.) unarmed, glabrous: leaves bipinnate: leafets very numerous, oblong-linear: spikes sub-globose, solitary: peduncles axillary, very long: legume obovate, large. Resembles Schrankia uncinata.

cool'eyi, Ea. (W. w. 2ſ.) leaves bipinnate, very irritable: legumes linear: elongated, smooth: spikes capitate. Described by Torrey, but not named.

19—15. ACAL'YPHA. 38. 96.

vir'ginica, (three-seed mercury. O. g. Au. ☉.) hairy: pistillate flowers at the base of the staminate spike: involucres heart-ovate, acuminate, toothed: leaves short-petioled, lance-oblong, remotely and obtusely serrate. Coarse and unsightly. Varies much in the density of its leaves and in height. 10 i. *S.*

car'olinia'na, Wr. (O. g. Ju. 2ſ.) leaves on long petioles, lance-oval, acuminate, long-petioled, acutely serrate, nerved, slightly cordate at the base: fruit-bearing branches generally naked: capsule echinate. The existence of this species in the Northern States was questioned, until Darlington found it in Pennsylvania. 18 1. *S.* T. P. O.

Acacia. Gr. *akakia*, from *akazō* to sharpen, in allusion to its thorny habit.

Acalypha. Gr. *a* not *kalos* agreeable and *aphe* to touch, disagreeable to handle.

8—1. A'CER. 23. 66.

rubrum, (red maple, soft maple. O. r. Ap. ♄.) leaves palmate, 5-lobed, cordate at the base, unequally gash-toothed, glaucous beneath, dividing incisions between the lobes acute: flowers in fives, in sessile umbels, with long pedicels; germs glabrous. 50 f. *S.*

da'sycar'pum, (1) white maple, silver paple. O. g-y. Ap. ♄.) leaves palmate-5-lobed, truncate at the base, unequally gash-toothed, glabrous and glaucous beneath, obtusely sinuate: flowers glomerate; pedicels short: germs downy. 50 f. *S* P. B. T.

barbatum, Mx. (2) hairy maple. w-g. Ap. ♄.) leaves heart-ovate, short-3-lobed, unequally serrate, glaucous beneath, and hairy at the nerves: peduncles hairy, staminate ones branching, pistillate ones simple: calyx bearded within; wings of the capsules erect. Small. 15 f. *S.* T. Y.

sacchari'num, (sugar maple. rock maple, hard maple. O. r-y. M. ♄.) leaves palmate-5-lobed, at the base sub-cordate, acuminate, obtusely sinuate, sinuate-toothed, glaucous beneath: peduncles in a nodding corymb. Large tree. 50 f. *S.*

ni'grum, Mx. (sweet-tree, blackmaple. W. A. y. Ap. ♄.) leaves palmate-5-lobed, cordate with the sinus at the base closed, lobes spreading somewhat sinuate-toothed, downy beneath: flowers corymbed: capsules turgid, sub-globose. Large tree, affording almost as much sugar as the last. 50 f. *S.* T.

striatum, Mx. (3) (striped maple, false dogwood. moose-wood. O. g. M. ♄.) lower leaves roundish, upper ones 3-cuspidate-acuminate, sharply serrate, glabrous: racemes simple, pendant. Small tree, with a greenish-striped bark. 15 f. *S.* T.

spicatum, Lk. (4) (mountain maple bush. A. y-g. M. ♄.) leaves sub-5-lobed, acute, tooth-d, pubescent beneath: racemes compound, erect. 15 f. *S.* T. O. N.

negundo, (5) (ash maple, box-elder. M. ♄.) leaves pinnate or ternate, unequally serrate. Flowers dioecious. Large tree. 40 f. *S.* P. K.

macrophyl'lum, Ph. (W. g-y. Ap. ♄.) leaves digitate-5-lobed; sinus rounded, lobes somewhat 3-lobed, repand-toothed, hairy beneath: racemes erect: filaments 9, hirsute. 40 f. West of Rocky Mountains.

cir'cina'tum, Ph. (W.) leaves orbicular, sub-cordate at the base, 7-lobed, unequally acute-toothed, glabrous both sides, nerves and veins hairy at the axils.

glabrum, T. & J. (W) leaves roundish, 5 or 7-lobed, truncate at the base, lobes acutely toothed, glabrous both sides: corymbs peduncled: fruit glabrous, with broad-ovate diverging wings. R.

18—5. ACER'ATES. (6) 30: 47.

vir'idiflo'ra, Ph. (green milkweed. E. g. Ju. 2*l*.) stem simple, erect, hirsute; leaves lance-oblong, obtusish, sub-sessile, downy-hirsute both

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Acer. Lat. *acer* hard or sharp: pikes and lances being made of it.

Acerates. Gr. *a* without and *keras* horn; it having no nectary horn.

(1) eriocarpum, Mx. (2) carolinianum, Wr. (3) pennsylvanicum, W. (4) mountanum, W. pennsylvanicum, Wm. (5) Negundo fraxinifolium, N. (6) Asclepias, Gomphocarpus.

sides: unbels lateral, solitary, sub-sessile, nodding, sub-globose, dense flowered: no little horn in the nectarines. Dry. 3 f. S. H. C.

lan'ceola'ta, Ives. (E. g. Ju. 2ℓ.) stem decumbent, hirsute: leaves lanceolate, acute, sub-sessile: umbels hirsute, lateral, solitary, sessile, sub-globose, dense-flowered, nodding: no little horn in the nectaries. Dry sandy plains. A very distinct and well defined species. 30 i. S. H. C.

Southern.

lon'gifo'lia, E. Mx. (E. w-r. M. 2ℓ.) stem decumbent: leaves alternate, linear: umbels lateral, erect: nectary very short: no little horn in the nectaries. 2 f.

nuttall'ia'na, T. (W. g. 2ℓ.) small, decumbent, hirsute: leaves oblong-ovate, scattered, acutish, short petioled; umbels terminal: nectaries intire, close-pressed: masses of pollen short: no little horn in the nectaries. 6 i. This is the lanuginosa of Nuttall, and obovata E.

obovata, E. (E. 2ℓ.) leaves obovate, obtuse, mucronate, tomentose on the under surface: umbels sub-sessile, terminal and axillary. 2—3 f.

17—2. A'CHILLE'A. 49. 55.

mill'efo'lium, (yarrow, milfoil. O. w. J. 2ℓ.) leaves 2-pinnatifid, downy: the divisions linear, toothed, mucronate: caylx and stem furrowed. 15 i. S.

ptarmica, (sneeze-wort. w. Au. 2ℓ.) leaves linear, acuminate, equally and sharply serrate, glabrous. Damp. 15 i. Y.

setacea, P. (W. w. Ap. 2ℓ.) leaves bipinnate; leafets setaceous-linear, mucronate, pilose, crowded: corymb compound, fastigiate. 18 i.

Southern.

tomentosa, W. (W. y. J. 2ℓ.) leaves 2-pinnatifid, villose; divisions crowded, lance-linear, entire: corymbs compound.

asplenifolia, V. (r. 2ℓ.) radical leaves 2-pinnatifid, cauline ones gashed with divisions ovate, serrate-mucronate, obtuse.

12—1. ACHLYS. 27. 62.

triphylla, Dc. (2ℓ.) leaves radical, long-petioled, terate: scape longer than the leaves, erect: spike terminal. Fort Vancouver, Oregon.

Acknantherum, AGROSTIS.

15—5. ACHYRAN'THES. 14. 30.

Southern.

repens, E. (1) (forty knot. E. March. 2ℓ.) stem prostrate, hairy; leaves opposite, petioled, lanceolate; flowers in sessile, ovate, axillary heads. Charleston, S. C.

fœni'dea, W. (E. Ju. 2ℓ.) stem creeping, glabrous: leaves broad-lanceolate, petioled: flowers in spherical, pubescent heads. Charleston, S. C.

Achillea. From a Greek physician, Achilles, who used it in medicine.
Achlys, Gr. *achlus* shady places; growing in shady places.
Achyranthes. Gr. *achuron* chaffy and *anthos* a flower.
(1) Gomphrena polygodoides, L. Illecebrum achyrantha, Wr. and puleginoides. Mx.

17—2. ACMEL'LA. 49. 55.

Southern.

repens, E. (E. y. S. 2ℓ.) stem creeping: leaves lance-ovate, toothed, 3 nerved, sub-pubescent; peduncles axillary and terminal, very long, 1-flowered. 18 i.

oc'cidenta'lis? N. (E.) stem creeping, sub-pubescent: leaves ovate, crenate, obsoletely 3-nerved, smooth, petioled, peduncle axillary, grooved: calyx minute. Resembles a Rudbeckia. Peduncles 3 inches long.

20—5. ACNI'DA. 53. 29.

can'nabi'na, (water hemp. L. w-g. Ju. ☺.) leaves lanceolate: capsules smoothish, acute-angled. Damp or wet, both on salt marshes and inland. 3 f. *S.* H. N.

ruscocar'pa, (w-g. Ju. ☺.) leaves lance-oval: capsules rugose, obtuse-angled. Damp. *S.*

12—5. ACONI'TUM. 26. 61.

uncina'tum. (monk's hood. W. b. J. 2ℓ.) stem flexuose: leaves palmate, 3 to 5-parted; divisions rhomb-lanceolate, gash-toothed: upper lip of the corol lengthened, convex, beaked. Cultivated. 2 f. *S.* M. P.

napellus, (wolf's bane. b. J. 2ℓ.) leaves shining, 5-parted; the divisions 3-parted by gashed incisions, sub-divisions linear: upper lip of the corol lanceolate, ascending, 2-cleft; spur strait, obtuse. 2 f. West of Rocky Mt. Cultivated.

nastum, Sr. (W.) nectaries erect, spur arched: helmet conic, beak bent down: racemes sub-panicled: divisions of the leaves broadish. West of Rocky Mt.

6—1. A'CORUS. 2. 7.

cal'amus. (sweet flag, calamus. O. g-y. J. 2ℓ.) spike protruding from the side of a sword-form leaf-like scape. Water or wet. Root strongly aromatic. 2 f. *S.* O. T. B.

21—1. ACROS'TICHUM. 55. 5.

Southern.

aureum, Mx. (forkfern. Ju. 2ℓ.) frond pinnate; leafets stiped, bases wedge-formed, lance oblong, entire, acuminate; the upper ones fruit bearing. Very large, 4 or 5 feet high.

12—1. ACTAE'A. 26. 61.

rubra, W. (1) (baneberry. O. w. M. 2ℓ.) petals shorter than the stamens,

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Acmella. Gr. *acme*, point, on account of the prickly taste of the leaves.
Acnida. Gr. *a* without & *knide* a nettle or sting: a stingless nettle.
Aconitum. Gr. *akone*, a cliff or rugged rock, its place of growth.
Acorus. Gr. *a* without & *kore* the pupil of the eye; it being once supposed good for sore eyes.
Acrostichum. Gr. *akros* highest and *stikos* order, from the row of leafets at the top.
Actaea. From Acteon a hunter of antiquity; or from Gr. *aktaia*, the elder, from its resemblance to that plant.
(1) brachypetala: Dc. americana, Ph. spicata, Mx. pachypoda, E.

acute: pedicles of the hemispheric raceme less than the general peduncle when mature. Berries red. Bw. MS. 2 f. *S.*

alba, Bw. (necklace weed, white beads. O. w. M. 2*f.*) petals equalling the stamens, truncate: pedicels of the oblong raceme as large as the general peduncle, when mature. Berries white. The leaves of both species are decompound. Woods. 2 f.

Southern.

po'docar'pa, (2*f.*) germs 4 or 5, glabrous, stiped: racemes panicled: leaves decompound. In dense woods in the mountains of Carolina. Cimicifuga americana. Mx.

cordifolia, (2*f.*) germs 2—3, glabrous, sessile: racemes panicled: leaves cut into threes; segments cordate at the base, 5 to 7-lobed, serrate. In shady woods in the mountains of Carolina. Cimicifuga cordifolia.

17—2. ACTINEL'LA. (2) 49. 55.

Southern.

acau'lis, (W. y. J. 2*f.*) pilose: scape 1-flowered, naked: leaves linear-spatulate, entire: rays 8 to 10: chaffs of the egret 5 to 7, ovate, short-awned. 6 i.

Actinochloa, ATHEROPOGON.

17—3. ACTINOME'RIS. 49. 55.

squarro'sa, N. (W. w. y. Au. 2*f.*) stem erect, winged, pubescent and panicled above: leaves lanceolate, serrate, scabrous: calyx spreading, loose: receptacle sub-globose, at length squarrose. 3 f. *S.* H. K.

Southern.

helianthoi'des, (W. y.) leaves lanceolate, acute, serrate, under side white-villose: corymb simple, compact. Stem winged.

alata, (E.) leaves ovate, acuminate, serrate, 3-nerved, opposite, decurrent.

pauciflora, N. (W.) simple? leaves oblong or oblong-ovate, serrulate, decurrent: peduncles few-flowered, long and naked. Florida.

Adelia, BORYA.

21—1. ADIAN'TUM. 55. 5.

pedatum, (maiden hair. O. J. 2*f.*) frond pedate, with pinnate branches; leafets halved; upper margin gashed—barren segments toothed, fertile ones entire: stipe capillary, very glabrous Woods. 1 f. *S.*

Actinella. A diminutive of Actinea, of *aktin* a ray, from its wide spread rays.

Actinomeris. Gr. *aktin* a ray and *meris* a part, the flower being imperfect, with respect to rays.

Adiantum. Gr. *a* not and *diaino* to moisten, from water sliding off easily.

(2) Actinea, Galardia.

12—13. ADO'NIS. 26. 61.

Exotic.

autumna'lis, (pheasant's eye. Au. ☉.) flowers 5 to 8-petalled: fruit subcylindric: petals erose, or emarginate.

Adlumia, CORYDALIS.

8—4. ADOX'A. 13. 84.

Southern.

moschatel'lina, (tuberous moschatel. W. g.) peduncles about 4-flowered: filaments united in pairs at the base; anthers roundish.

3—2. AE'GILOPS. 4. 10.

Southern.

hystrix. N. (W. 2ℓ.) spike squarrose, with long, recurved, divergent awns; calyx smooth, generally 4-parted to the base; segments mostly 2-cleft, unequally 2-awned: spikelets about 4-flowered: dorsal valves of the corol terminated by 2 or 3 unequal awns. 6 i.

16—10. AESCHYNOM'ENE. 32. 93.

hispida, W. (false sensitive plant. y-r. Ju. ☉.) stem erect; stem and petioles tubercle-hispid: leaves in many pairs; leafets linear, obtuse; stipules membranaceous, half arrow-form; racemes simple, few-flowered: loments hispid. Wet. 30 i. *S.* Y. P.

Southern.

viscid'ula, (y. 2ℓ.) stem prostrate, slender, viscid-hairy: leafets 7 or 9, obovate: peduncles generally 2-flowered: loment hairy; joints deeply notched. Sandy. 3 f.

glaber'rima, Poir. glabrous: stem erect, terete: leafets linear. 30—35 pair: peduncles few flowered: legumes glabrous, punctate; 10 to 12 jointed, straight or roundish. Carolina.

7—1. AE'SCULUS. 23. 66.

glabra, (little buck-eye. W. y. w. M. ♄.) leaves in fives, glabrous: corol 4-petalled, spreading; claws as long as the calyx: stamens longer than the corol: fruit spinous. 30 f. *S.* Lexington. Dr. Short.

Exotic.

hippocas'tanum, (horse-chesnut. r. y. w. J. ♄.) capsule prickly: corol 5-petalled: leafets 7, wedge-obovate, acute, toothed. Flowers speckled.

Southern.

ohioen'sis, (W. w. ♄.) capsule prickly: leafets 5, glabrous, oval-acuminate, irregularly toothed: flowers numerous, racemed. Fruit half as large as of the hippocastanum. K.

Adonis. From Adonis the favorite of Venus, who was reported to have been changed into a flower.

Adoxa. Gr. *a* not and *doxa* glory, from its diminutive appearance.

Aegilops. Gr. *aigos*, goat and *ops* appearance, from its roughness.

Aeschynomene. Gr. *aischanomai* to be bashful, on ancount of its sensibility.

Aesculus. Lat. *esca* food; a term anciently applied to a different fruit tree.

pallida, W. (W. ♄.) capsule prickly: corol 4-petalled, spreading: claw shorter than the calyx: stamens twice as long as the corol: leafets 5. Kentucky. Aikin. P.

S. G. Pa'via.

Southern.

macrosta'chya, (W. w. Ar. ♄.) stamens much longer than the 4-petalled corol: raceme very long: leafets 5. By rivers in Georgia.

rubra, (b-r. ♄.) stamens shorter than the 4-petalled corol: leafets 5, oblong-oval, acute at both ends; petioles and leafets glabrous, with the axils of the nerves hairy beneath.

hybrida, (w-r. ♄.(stamens shorter than the 3-petalled corol: petals glabrous: leafets 5, oblong-oval. acuminate at both ends, pubescent. Georgia.

flava, (w-y. ♄.) stamens shorter than the 4-petalled corol: petioles hairy, flattish above; leafets 5 to 7, oblong-oval, acute at both ends; the under side, and the nerves on the upper side, hairy. Virginia. Kentucky. Very large tree. Dr. Short.

dis'color, Ph. (W. w. y. r. M. ♄.) leaves in five divisions, acuminate at each end, downy beneath, unequally serrulate: claws of the petals as long as the calyx: fruit not awned. 4 f.

lutea, (y. March. ♄.) leaves in 5 divisions, hairy beneath near the midrib, equally serrulate: corol 4-petalled, converging: claws longer than the calyx. 5 f.

5—2. Aethu'sa. 45. 60.

Southern.

divaricata, (fool's parsley. E. w. ☺.) stem erect, slender: leaves biternate; segments narrow-linear: umbels terminal, without involucres; partial umbels 3 to 5 flowered. Fruit hispid.

lep'tophyl'la, (W. r. w. ☺.) leaves biternate, gashed; margin of the acute segments entire: umbel 3-parted, sessile; partial umbels naked, few-flowered. 1 f.

pinna'ta, N. (1) (W.) leaves cut pinnate; segments distant, in few pairs, linear, entire, terminal one very long: fruit oval-oblong. Arkansas.

cynapium, (E.) leaves all uniformly pinnate: leafets pinnatifid, shining.

Afzelia, Seymeria.

Agathyrus, Sonchus.

6—1. Aga'ye. 10. 15.

virginica, (agave. W. y-g. S. 2f.) stemless: leaves with cartilaginous serratures: scape very simple. *S.* P. K.

Pavia. Lat. peacock, from its ocellate feathers.
Aethusa. Gr. *aithousa*, beggarly, from its habit and appearance.
Agave. Gr. *agavos*, admirable, from its beautiful appearance.
(1) Cynosciadium. Dc.

17—1. AGER'ATUM. 49. 53.

[Generic description not printed in its place. It should follow POLYPTERIS on page 99, as an *Exotic.*]

Receptacle naked: egret with 5 somewhat awned chaffs: leaves of the calyx oblong, in a double row; corols 4 or 5-cleft.

mexicanum, (b. J. ☉.) hispid: leaves cordate, ovate, crenate, rugose: corymb compound: chaffs of the egret lanceolate, awned. Cultivated. From Mexico.

11—2. AGRIMO'NIA. 35. 92.

eupato'ria, (agrimony. O. y. Ju. 2ſ.) cauline leaves interruptedly pinnate, the terminal leafet petioled: leafets obovate, gash-toothed, almost glabrous: flowers sub-sessile; petals rarely twice as long as the calyx: fruit hispid. 2 f. *S.*

parviflo'ra, A. (dotted agrimony. W. y. Ju. 2ſ.) cauline leaves pinnate: leafets mostly lanceolate, serrate; terminal ones sessile; petals once ann a half the length of the calyx. P. V. P.

striata, (W. 2ſ.) spikes wand-like: fruit reflexed, turbinate, furrow-striate; at the apex appearing as if crowned, hispid. Canada.

Southern.

suaveolens, (W. y. Ju. 2ſ.) stem very hispid: leaves interruptedly pinnate; leafets numerous, narrow, lanceolate, acutely toothed, scabrous above, and pubescent beneath: fruit turbinate, smooth at the base. 5 f. Wet. St. Louis.

3—2. A'GROPY'RON. (2) 4. 10.

repens, Pb. (couch-grass, quack-grass. O. J. 2ſ.) spikelets oblong, 4-5-flowered: glumes subulate, many-nerved: florets acuminate: leaves flat: root and base of the stem creeping. 2 f. This is the Triticum repens. Troublesome to farmers in rich soils—very useful for binding the banks of canals and sandy soils. *S.*

caninum, Rs. (E. 2ſ.) spikelets 3 to 5-flowered, compressed: glumes 3 to 5-nerved, bristled at the tip: florets bristled at the tip: root fibrous. 2 f. *S.* Seneca Lake.

10—5. A'GROSTEM'MA. 22. 82.

githago, (1) (cockle, O. r. J. ☉.) hirsute: calyx longer than the corol: petals entire. *S.*

Exotic.

corona'ria, (rose campion. Au. ♂.) tomentose: leaves lance-ovate: petals emarginate.

3—2. AGROS'TIS. 4. 10.

stricta, W. (bent grass. E. J. 2ſ.) panicle elongated, strait: calyx equal:

Ageratum. Gr. *a*, without, *geras*, old age, as it never changes color.

Agrimonia. Gr. *agros* a field and *monos* alone, from its being the chief of wild herbs, in the opinion of ancient physicians.

Agropyron. Gr. *agros* a field and *puros* wheat or corn.

Agrostemma. Gr. *agros* a field, and *stemma* a garland, from its beauty.

Agrostis. Gr. *agros* a field, it being eminently an occupant of fields.

(1) Lychnis Dc. (2) Triticum.

corol smaller than the calyx, with unequal valves, and an awn at the base of the outer one longer than the flower. Y. N.

vulga'ris, S. (red-top. O. J. 2[.) panicle with smoothish branches, spreading in maturity: outer valve of the corol 3-nerved: stipule short, truncate. 18 i.

alba, (white-top, bonnet grass, O. J. 2[.) panicle with hispid, spreading, lax-branches: outer valve of the corol 5-nerved: stipule oblong. 18 i. Var. *decumbens*, (florin grass) stem decumbent. This variety is considered as a distinct species by some, and called *stolonifera*. S.

lat'eriflo'ra, Mx. (W. Au. 2[.) culm erect, branched above, sending off shoots at the base: panicle lateral and terminal, dense: calyx acuminate: corol longer than the calyx, equal, hairy at the base, awnless. Root creeping. Leaves broad with scabrous margins and compressed sheaths. 2 f.—*mexicana*, perhaps a synonym, is too vague in its application to be retained. Var. *filiformis*, has a very slender panicle, and the corol nearly equalling the calyx—sometimes the culm is subdecumbent. Swamps. S. Y. P. O. N.

subolif'era, M. (Au. 2[.) stems sending off shoots, and sometiea decumbent, at the base; but mostly erect, branched: panicle contracted, filiform, simple; branches compressed: corol longer than the equivalved calyx, hairy at the base, valves equal, awnless, mucronate. Resembles Var. *filiformis* of the lateriflora. Woods. P. Y. N.

tenuiflo'ra, W. (W. Ju. 2[.) culm almost simple, hairy at the joints; branches, when present, close-pressed: stipules obsolete: panicle contracted, with filiform branches: corol considerably longer than the calyx; the lower valve with an awn twice as long as the flower. 3 f. Woods. S. P. N.

sylvatica, T. (A. 2[.) culm erect, much branched, diffuse, smooth (glabrous?) stipule lacerated: panicle with filiform branches: corol longer than the calyx: with awns thrice as long as the flower. The diffusa. M. 3 f.

compressa, T. (S. 2[.) whole plant glabrous: culm erect, compressed, simple: panicle oblong, sub-contracted, with capillary branches: calyx equal, shorter than the corol, acute: corol sub-obtuse, smooth (glabrous?) at the base. Stem sending off shoots at the base. 18 i. Swamps in sandy plains. Y.

sero'tina, T. (S. 2[.) culm filiform, much compressed: leaves narrow, keeled, erect: panicle attenuated; branches capillary, erect, with alternating branchlets: calyx unequal, half as long as the awnless corol. 18 i. Swamps in sandy plains.

juncea, Mx. (Oc. 2[.) leaves strait, erect, setaceous, convolute: panicle long-pyramidal, whorled: flowers awnless; calyx half as long as the corol. The indica of M. 2 f. S. P. Y.

virginica, (S. 2[?) culms sub-cespitose, numerous, procumbent at the base and assurgent above: leaves dichotomous, involute, rigid: panicles lateral and terminal, spike-form—lateral ones concealed: calyx with equal valves and about equalling the corol. No stipules; stamens minute. Has been mistaken for *pungens*. Sandy. S. M.

longifolia, T. (2[.) panicle contracted, spiked, generally concealed: corol much longer than the calyx, sub-equal, glabrous, without spots or awns: leaves filiform, very long, recurved at the tips. Torrey introduces this species to conjoin the supposed two species *involuta* and *aspera*. 3 f. Sandy. N.

clandes'tina, Sl. (W? S. 2ℓ.) panicle spiked, partly concealed: corol unequal, much longer than the calyx, hairy and spotted, slightly awned: leaves very long, rigid: stipule bearded. 2 f. Sandy. S. P. N.

spi'ca-ven'ti, W. (bent grass. J. ☺.) panicles spreading: awn of the outer petal straight, stiffly erect, very long. P.

canina, W. (brown bent grass. Ju. 2ℓ.) culm prostrate, sub-ramose: calyx elongated: petals with recurved awns on their backs. Wet. These two last species, Pursh says, were introduced.

Southern.

arachnoides, E. (Ap. 2ℓ.) stem erect: panicle long, slender: calyx scarcely longer than the corol; the outer petal with a long weak spiderweb-like awn on the back. 6 i.

trichopodes, E. (F. S.) panicle long, diffuse; cappillary: valves of the corol equal; the outer one with a short awn: leaves linear, flat. 3 f. Stipules long, membranaceous.

dispar, Mx. (W.) erect, large: panicle loose, somewhat in a whorled pyramid, many-flowered: glumes unawned, with the outer valve largest and one of the inner very small.

pauciflora, Ph. (Ju. 2ℓ.) panicle with filiform, 1-flowered branches: corol awned, twice as long as the unequal calyx, hirsute: sheaths villose. 18 i.

cryptandria, T. & J. (W.) panicle pyramidal with spreading, sub-alternate branches, hairy at the axils: flowers sub-racemed, unarmed: lower valve of the calyx very short: upper one as long as the nearly equal corol: sheaths bearded at the throat. 3 f. Very abundant at Buffalo. Aikin.

airoides, T. & J. (W.) panicle pyramidal, with branches somewhat in pairs, spreading; naked at the axils: flowers solitary, unarmed; glumes unequal, mostly shorter than the nearly equal corol: sheaths bearded at the throat.

caespito'sa, T. & J. (W.) caespitose: culm branched, somewhat incurved: leaves involute, sub-dichotomous, pungent: panicle contracted: flowers awned. 4 i.

brevifolia, N. (W.) leaves much shorter than the solid, compressed, cespitose culms: panicle with alternate, close-pressed, racemes: calyx equal, about half as long as the corol. 1 f.

3—2. AI'RA. 4. 10.

flexuosa, (hair-grass. O. J. 2ℓ.) panicle spreading, trichotomous: branches flexuose: calyx a litlte shorter than the florets, and about the length of the awn: leaves setaceous: culm nearly naked. 20 i. S.

caespitosa, (J. 2ℓ.) panicle diffuse: florets about the length of the calyx: awn short, straight: leaves flat. Wet. 18 i. P. W.

aristulata, T. (Au. 2ℓ.) panicle capillary, spreading: branches whorled and flexuose: calyx 2-flowered, shorter than the florets: superior floret pedicelled: lower valve of the corol truncate, laciniate, with an awn a little below the middle, scarcely exsert. 3 f. Onondaga lake. S.

Aira. Gr. deadly instrument; but no poisonous plant is now included in the genus, if ever.

pumila, Ph. (J. 2f.) panicle small, fastigiate, few-flowered: pedicels short: florets awnless, obtuse, twice as long as the calyx: valves with membranaceous margins: leaves flat, smooth: culm erect, scarcely longer than the leaves. 1 i. In close tufts. P.

Southern.

capillacea, Lk. panicle capillary, very large, diffuse: florets not awned, longer than the calyx; one on a footstalk. 8 i.

obtusata, Mx. (March. 2f.) leaves flat: panicle contracted: flowers smooth, obtuse; the interior valve of the calyx obliquely truncate. 2 f. P. W. Y.

aquatica, W. (water hair grass. M. 2f.) panicles spreading, half-whorled: flowers beardless, obtuse smooth, longer than the calyx: leaves flat: culm creeping. Water.

13—1. A'JUGA. 42. 42

cha'maepi'thys, W. (bugle. y. J. ☺.) leaves 3-cleft: flowers axillary, solitary, shorter than the leaves: stem diffused.

4—1. ALCHEMIL'LA. 35. 92.

alpina, (lady's mantle. A. w. 2f.) leaves digitate, serrate at the extremities, white-satiny beneath. Mts. N. Hampshire.

6—1. ALE'TRIS. 10. 16.

farinosa, (false aloe, unicorn root, false star grass. W. y. 2f.) stemless: leaves linear-lanceolate, withering at the tips: scape with alternate pedicelled, mostly farinaceous, flowers. This plant grows plentifully in Brimfield, (Mass.) Here the inhabitants use the root as a tonic, which at the same time serves as a moderate cathartic. The root is intensely bitter. Meadows. *S.* C. D. N. K.

aurea, Mx. (yellow star-root. y. Ju. 2f.) flowers sub-sessile, short-tubular, sub-companulate; fertile corols rugose, very scabrous: leaves lance-ensiform, acute. *S.* P. Y.

6—13. ALIS'MA. 5. 13.

plantago, (1) (water plantain. mad-dog weed. O. w. Ju. 2f.) leaves ovate or heart-ovate, obtuse or abruptly acuminate, 5 to 9-nerved: fruit 3-cornered: flowers whorled. Var. *parviflora*, flowers smaller: leaves about 5 or 7-nerved. Difference scarcely sufficient for a variety. Wet and water. *S.*

natans, W. (L. Ju. 2f.) leaves ovate, obtuse: peduncles solitary Water or wet.

4—1. ALLIO'NIA. 48. 32.

Southern.

ovata, Ph. (W. Au. ☺.) stem diffused, dichotomous: leaves ovate, a little scabrous or naked: flowers terminal, fascicle-racemed: involucre half 5-cleft; divisions round, acutish, net-veined.

Ajuga. Gr. *a* privative and *zugon* a yoke, not paired.
Alchemilla. So called because it was celebrated by the alchemists.
Aletris. Gr. *aeliar*, meal; its corol being lined with meal.
Alisma. From the Celtic, *alis*, water: its place of residence.
Allionia. In honor of Allioni, an Italian botanist.
(1) trivialis Ph.

multiflora, P. & J. (W.) pulverulently pubescent: leaves broad-cordate, acute, very entire, involucre 7 or 8-flowered, 5-cleft: flowers sub-pentandrous: stamens scarcely exsert. Flowers very large. Near Rocky Mt.

6—1. AL'LIUM. 9. 16.

canaden'se, (meadow garlic. W. M. 2f.) scape naked, terete: leaves linear: head bulbiferous. 18 i. S. P. O. T. W. N. K.

vineale, (field-garlic. W. p. J. 2f.) cauline leaves rounded, fistulous: umbels bulbiferous: stamens alternately tricuspidate. 8 i. T. Y. P. K.

triflorum, (mountain leek, W. A. M. 2f.) scape naked, terete, shorter than the leaves: leaves lanceolate, nerved: umbels few-flowered.

cer'nuum, Roth. (W. r. Ju. 2f.) scape naked, quadrangular, umbelliferous: leaves linear, nearly flat: umbel cernuous: stamens simple: germ 6-toothed. 18 i. S. M. H. K.

tricoccum, A. (three-seed leek. W. A. w. J. 2f.) scape naked, nearly terete: leaves lanceolate-oblong, flat, smooth: umbel globose: seeds solitary. P. W. N. K.

Exotic.

cepa, (garden onions. Ju. 2f.) scape naked, swelling towards the base, longer than the terete leaves.

fistulosum, (welch onion. 2f.) scape naked, equalling the terete ventricose leaves.

schænopra'sum, (cives. Ju. 2f.) scape naked, equalling the leaves which are terete-filiform.

olera'ceum, (striped onion. 2f.) stem terete-leaved, bulb-bearing: leaves scabrous, semi-terete, sulcate beneath: stamens simple.

ascalo'nicum, (shallot. Ju. 2f.) scape naked, terete: leaves subulate: umbels globose: stamens tricuspidate.

porrum, (leek. Ju. 2f.) stem flat-leaved, umbilliferous: stamens tricuspidate: leaves sheathing at the base.

sativum, (garlic. Ju. 2f.) stem flat-leaved, bulb-bearing; bulb compound: stamens tricuspidate.

fragrans (false snow-drop. w. M. 2f.) scape terete: leaves linear, keeled, obtuse, contorted: peduncles naked; stamens flat.

senescens, (false narcissus. 2f.) scape naked, 2-edged: leaves linear, convex under side, smooth: umbel round: stamens subulate.

Southern.

striatum, Ph. (W. w. March. 2f.(scape naked, slightly 3-angled: leaves linear, concave, streaked on the back: corol expanding: stamens simple, included.

mutabile, Mx. (g-r. M. 2f.) scape terete: leaves linear, flat: umbel many-flowered: stamens simple, included: seeds solitary. 2 f.

stellatum, leaf linear, channelled, keeled under side: flowers in fastigate umbels, numerous: spathe acute: the 3 outer petals shorter, sub-obtuse: capsule turbinate-3-sided: cells 2-seeded.

Allium. Gr. *aleo* to avoid on account of its disagreeable odor.

angulosum, (W. 2[.) scape naked, 2-edged: leaves linear, channelled, sub-angular beneath: umbel fastigate. Damp.

19—4. AL'NUS; W. (1) 50. 99.

incana, W. (♄.) leaves oblong, acute, pubescent beneath: axils of the veins naked: stipules lanceolate. P.

undulata, W. (2) (waved alder. Muh. says it grows in New-England. ♄.) leaves oblong, acute, rounded at the base: petioles and veins hairy beneath; axils of the veins naked: stipules ovate-oblong.

serrulata, (alder, O. r-g. Ap. ♄.) leaves obovate, acuminate: veins and their axils hairy beneath: stipules oval, obtuse. 9 f. S.

glutinosa, (Ap. ♄.) leaves round-wedge-form, obtuse, glutinous: axils of the veins downy. D. N.

glauca, Mx. (A. March. ♄.) leaves oblong, acute, doubly serrate glaucous beneath; axils of the veins naked: stipules naked. Called black alder.

3—2. ALOPECU'RUS. 4. 10.

pratensis, (meadow grass, foxtail, W. J. 2[.) culm erect, smooth: spike cylindric: corol as long as the calyx. T. P. Y. N.

geniculatus, M. (3) (floating foxtail. W. Ju. 2[.) culm ascending, geniculate: spike cylindrical: glumes a little connate at the base, hairy on the back and margin: corol truncate: styles free. 18 i. S. Wms. C. N. O. T. Y.

Alsine. STELLARIA.

15—13. ALTHÆ'A. 37. 74.

officina'lis, (marsh-mallows. r-y. Ju.2[.) leaves downy, oblong-ovate: obsoletely 3-lobed, toothed. 6 f. P. B. Cultivated.

Exotic.

ro'sea, (hollyhock. ♂.) stem erect: leaves rough, heart-form, 5 to 7-angled; crenate.

ficifolia, (fig-hollyhock. ♂.) leaves 7-lobed, sub-palmate, obtuse.

14—1. ALYS'SUM. 39. 63.

hyperbo'reum, W. (W.) stem herbaceous: leaves hoary, toothed; stamens 4, 2-forked. Canada.

denta'tum, N. (2[.) stem erect: racemes panicled, axillary: radical, leaves sub-runcinate; cauline ones lance-linear, sessile, sub-entire: silicle terminated by a style about its own length, and with a peduncle still longer. Draba?

ludovicia'num, N. (W. y. Ap. 2[.) silver-downy: stems numerous, simple, angular: leaves linear-spatulate, entire, obtuse, attenuated. Myagrum?

Alnus. Derived from the Celtic *al* near, *lan* river side—Lat. alnus.

Alopecurus. Gr. *alopex* a fox and *oura* a tail.

Althæa. Gr. *altha*, to cure, from its many excellent properties.

Alyssum. Gr. *alusso*, to be mad, from its being supposed to cure mental maladies.

(1) Betula, L. (2) crispa. (3) aristulatus, Mx.

Exotic.

saxatile, (basket of gold. y. ♄.) stem woody, panicled: leaves lanceolate, very soft, repand.

19—5. AMARAN'TUS. 54. 30.

albus, W. (white coxcomb, W. g-w. Ju. ☉.) glomerules axillary, triandrous: leaves obovate, retuse; stem 4-cornered, simple. Common garden weed. 18 i. Y. P. C.

græ'cizans, W. (W. g. Au. ☉) glomerules axillary, triandrous: flowers 3-cleft: leaves obovate, emarginate: stem teretish, branchiug. P. T.

olera'ceus, (pot amaranth. Ju. ☉.) glomerules axillary, branching: leaves wrinkled, oblong, very obtuse, emarginate. Sometimes the flowers are pentandrous. 18 i-2 f. C. W. Y. P. N.

hy'bridus, W. (W. Ju. ☉.) racemes pentandrous, doubly compound, heaped together, erect: leaves ovate-lanceolate. P. C. Y. B. N.

paniculatus, W. (Ju. ☉.) racemes pentandrous, triply-compound: branches spreading, pubescent: leaves ovate, lanceolate. P.

retroflex'us, W. (rough amaranth. O. Au. ☉.) racemes pentandrous, triply-compound, compact, erect: branches pubesent: leaves ovate, undulate.

hypochondria'cus, W. (spleen amaranth. Au. ☉.) racemes pentandrous, compound, compact, erect: leaves oblong-lanceolate, mucronate. Leaves red. (False prince's-feather.) P. Cultivated.

spinosus, W. (Au. ☉.) racemes pentandrous, terminal, compound: axils spinose. P.

pu'milus, R. (dwarf amaranth. g.) glomerules axillary: flowers pentandrous: calyx 5-leaved, concave: leaves ovate, obtuse, smooth and fleshy, sometimes retuse. Scarcely twelve inches high. ☽. C.

sanguin'eus, (g. Ju. ☉.) flowers pentandrous, in decompound, erect, clustered racemes: leaves ovate-lanceolate. C.

blitum, (g. Ju. ☉.) racemes triandrous, sub-spiked: flowers 3-leaved; leaves ovate, retuse: stem spreading, or prostrate. B.

Exotic.

melancholi'cus. (love-lies-bleeding. r. ☉.) glomerules axillary, peduncled, roundish: leaves lance-ovate, colored.

tri'color, (three-colored coxcomb. Ju. ☉.) glomerules sessile: leaves lance-oblong, colored.

lividus, (lead amaranth. Ju. ☉.) glomerules triandrous, sub-spiked, roundish: leaves oval, retuse: stem erect.

6—1. AMARYL'LIS. 9. 17.

atamasco, (a tamasco lily. w. & r. J. 2ℓ.) spathe 2-cleft, acute: flower pedicelled: corol bell-form, sub-equal, erect: stamens declined. S. P.

Exotic.

formosis'sima, (jacobea. 2ℓ.) spathe 1-flowered: corol ringent-like: petals declined.

Amarantus. *a*, not, and *maraino*, wither, from the durability of the flowers.

Amaryllis. From the nymph Amaryllis, mentioned in Virgil.

19—5. Ambro'sia. 54. 55.

trifida, W. (great bitter weed. O. g-y. Au. ☉.) bristly, rough: leaves 3-lobed, serrate; lobes oval, lanceolate, acuminate: fruit 6-spined, beneath the apex. From 5 to 8 feet high.

integrifolia, W. (g. Ju. ☉.) leaves ovate, sessile, acuminate, serrate, bristly on both sides, ciliate at the base; racemes terminal, sometimes ternate. Flowers very inconspicuous. 3 f. Var. of *trifida*?

elatior, W. (hogweed, Roman wormwood. O. Ju. ☉.) leaves doubly pinnatifid, smoothish: petioles long, ciliated: racemes terminal, panicled: stem wand-like. 8 f. *S.*

artemisifolia, W. (S. ☉.) leaves doubly-pinnatifid, hoary beneath, at the summit pinnatifid: racemes terminal in threes: branches level-topped. *S.* Y. P.

paniculata, W. (J. ☉.) leaves glabrous, doubly pinnatifid, pinnatifid at the summit: racemes terminal, solitary: branches level-topped. P.

heterophylla, W. (S. ☉.) cauline leaves pinnatifid, sub-toothed, petioled; on the upper branches lanceolate sessile: petioles long ciliate: racemes terminal, solitary: stem panicled. P.

bidenta'ta, Mx. (W. Ju. ☉.) very hirsute: leaves closely sessile, simple, oblong, one-toothed on each side above the spreading base: fruit 4-cornered, 4-spined below the apex.

acanthicarpa, H. ( ) very branching, hispid with rigid rough bristles: leaves bipinnatifid with linear segments: racemes terminal; fruit everywhere covered with long rigid subulate spreading spires. Columbia river.

Southern.

hispi'da, Ph. (w. ☉.) white-hispid on all parts; leaves 2-pinnatifid: divisions gashed; racemes sub-panicled, terminal. Flowers large. 1 f.

tomentosa, N. (W. 2f.) leaves 2-pinnatifid, under side white-downy: spike solitary. 18 i.

Amelanchier, Aronia.

Amellus. Eclipta.

4—1. Ammann'ia. 17. 91.

ramos'ior, (w-p. Au) stem erect, thick, sub-terete: leaves lanceolate, dilated at the base; lower flowers compactly whorled. Salt meadows. 6 i. Y. C.

hu'milis, Mx. (w-r. Au. ☉. ♂.) stem procumbent at the base, branched, slender, quadrangular: leaves lanceolate, slender at the base: flowers solitary. Stem red. 6 i. P.

Ammi. Sison. Discopleura.

17—1. Ammobium. 49. 53.

[Generic description was not printed in its place. It should follow Cynara, p. 99.]

Calyx leaves imbricated, colored, radiated: anthers with 2 bristles at the base: chaffs of the receptacle distinct: egret a toothed edge.

Ambrosia. *a*, privative, and *brotos*, mortals, it being the food of the gods.

Ammannia. in honor of John Ammann, a Russian botanist.

Ammobium. Gr. *ammos*, sand, *bio*, to live—it growing naturally in sand.

alatum, (w. 2ſ.) stem winged: leaves oblong, undulate, decurrent. Cultivated. From N. Holland.

Ammyrsine. LEIOPHYLLUM.

16—10. AMOR'PHA. 32. 93.

fruticosa, (Var. *emarginata*, T.) (W. Ju. ♄.) smooth sub-arborescent: leaves petioled, emarginate: spikes aggregated, long: calyx hoary, pedicelled, one of the teeth acuminate, the rest obtuse: legume few-seeded. 6 f. *S.* P. K.

glabra, (♄.) somewhat woody, glabrous: leaves oval-oblong, lower ones distant from the stem: calyx glabrous, with four teeth obtuse, and one acuminate, banner glandular outside: legume few-seeded.

Southern.

pubes'cens, Ph. (w. J. ♄?) small shrubby; leaves on very short petioles, obtuse at each end, hairy: spikes long, panicled, hairy: calyx sub-sessile with acuminate teeth. 3 f.

nana, N. (W. p-b. M. ♄.) leafets sub-ovate or oval, mucronate and smooth: spikes solitary and aggregated: flowers pedicelled: teeth of the calyx setaceously acuminate: legume 1-seeded. On grassy woodless hills. 9 i.

canescens, N. (lead plant. W. b. ♄?) somewhat woody, white-villous: leafets near each other, sub-sessile, oval-ovate, mucronate: spikes aggregated: flowers sub-sessile: teeth of the calyx equal; ovate, acute. 18 i. Galena.

5—1. AMPELOP'SIS Mx. 46. 72.

quinquefolia, Mx. (1) (false grape, creeper. O. w. Ju. ♄.) leaves in fives, toothed: stem rooting, climbing. *S.*

cordata, Mx. (W. 2ſ.) leaves cordate, acuminate, toothed and angular: nerves pubescent beneath: racemes 2-parted. Swamps. Granby, S. C.

hirsuta, Donn. (♄.) leaves palmate. 3 to 5-lobed, hairy both sides, leafets ovate, acuminate, coarsely toothed. Allegany Mts. Perhaps a variety of the exotic *hederacea*.

Southern.

bipinnata, Mx. (E. J. ♄.) leaves doubly pinnate: leafets lance-ovate, deeply toothed and lobed: flowers in corymbs. Arkansas.

Amphicarpa. PHASEOLUS.

18—5. AMSO'NIA. 30. 47.

Southern.

latifolia, Ph. (W. b. Ap. 2ſ.) stem glabrous: leaves lance-oval, upper ones acuminate, pubescent on the under surface of the nerves. 2 f.

salicifolia, Ph. (b. M.) Stem smooth: leaves lance-linear, acute at each end, very glabrous.

Amorpha. Gr. *a*, priv. and *morphe*, shape, from the absence of wings and keel of the corol

Ampelopsis. Gr. *ampelos*, the vine, and *ops*, appearance, from its resembling the grapevine.

Amphicarpa. Gr. *amphi*, both, and *karpos*, fruit, it producing fruit above and below ground.

Amsonia. Named by Walter. Probably in honor of a friend.

(1) Hedera quinquefolia, L. Cissus hederacea, P. Vitis quin. Lk.

angustifolia, Mx. (b. Ap.) stem hairy; leaves narrow-linear, numerous, erect, hairy. 2 f.

11—1. AMYG'DALUS. 36. 92.

Exotic.

persica, (peach. r. M. ♄.) serratures of the leaves all acute, flowers sessile, solitary. 15 f.

vana, (flowering almond. ♄.) leaves ovate, tapering to the base, sharply serrate. 3 f.

8—1. AMY'RIS. 43. 94.

Southern.

floridana, (w. ♄.) leafets 1-paired, with a sessile terminal leafet, ovate, entire, obtuse, glabrous; flowers sub-panicled: berry sub-globose; tapering at the base. In West Florida.

toxifera, (w. ♄.) leafets 5—7, petioled, ovate, sub-cordate, acuminate: racemes simple, about the length of the petiole. In Carolina.

Anabasis, SALSOLA.

5—1. ANAGAL'LIS. 20. 35.

arvensis, (red chickweed, scarlet pimpernell. r. J. ☺.) stem spreading, naked, procumbent: petals entire, flat, with hairs at the margin. S. C. P. T. Y. B.

Anantherix. PODOSTIGMA.

Anatherum. ANDROPOGON.

5—1. ANCHU'SA. 41. 43.

Exotic.

officinalis, (buglos. y. 2[.) leaves lanceolate: spikes imbricate, one-sided: bracts ovate.

Andrewsia. CENTAURELLA.

5—1. AN'DROCE'RA. N. 28. 38.

Southern.

lobata, N. (W. J. ☺.) prickly, hirsute: leaves in pairs, lobe-pinnatifid: segments obtuse, obsoletely crenate, undulated: racemes lateral, many-flowered. The Solanum heterandrum of Ph.

10—1. ANDROM'EDA. 18. 51.

hypnoides, W. (moss-bush. Au. ♄.) leaves imbricate subulate, glabrous:

Amygdalus. Gr. *amugdalos*, the almond tree, which belongs to this genus.

Anagallis. Gr. *anagelas*, to laugh, from its supposed exhiliarating qualities.

Anchusa. Gr. *agchousa*, to strangle, because as some say it strangles serpents.

Androcera. Gr. *aner*, (*andros*,) stamen, and *keros*, a horn, in allusion to the coniform appearance of one of the anthers.

Andromeda. From *Andromeda* the daughter of Cepheus, who was, like this plant, confined in a marsh.

peduncles solitary, terminal, 1-flowered: corol nodding, globose-bell-form. Small, creeping. White Hills.

mariana, W. (W. J. ♄.) leaves oval, entire, sub-acute at both ends, glabrous, leathery, paler beneath: flower-bearing branches almost leafless; peduncles fascicled: corol ovate-cylindric: calyx leafy: anthers beardless: capsule ovate, and resembling the form of a pine-apple. One variety has narrow lanceolate leaves. *S.* P Y.

polifolia, Mx. (W. wild rosemary. A. r-w. M. ♄.) leaves linear-lanceolate, convex, revolute, white-glaucous beneath and hoary-glaucous above: flowers aggregate, terminal: corol sub-globose: anthers bearded towards the top. One foot high. Wet. T. D. B. N.

arborea, W. (sorrel tree. W. w. Ju. ♄.) branches terete; leaves oblong, acuminate, mucronate-serrate, glabrous: panicles terminal, many spiked: corol ovate-cylindric, pubescent: anthers linear, beardless. About 40 feet high, with acid leaves. *S.* P. Charleston, S. C.

paniculata, M. (1) (white bush, pepper bush. O. w. J. ♄.) pubescent: leaves obovate-lanceolate, acute, sub-entire: flower bearing branches terminal panicled, nakedish: glomerules peduncled: corol sub-globular, pubescent: anthers obtuee, beardless. A shrub running into several varieties—flowers small. *S.*

racemosa, W. (W. w. J. ♄.) leaves oval-lanceolate, acute, serrulate, membranaceous, glabrous: spikes terminal, one-way, elongated, simple or branched: bracts linear, acute: corol cylindric: calyx acute, with bracts at the base: anthers doubly 4-bearded at the apex. A middling sized shrub, odoriferous. Wet. *S.* P. Y. K.

calyculata, W. (leather leaf. O. w. M. ♄.) leaves lanceolate-oblong, obsoletely serrulate, sub-revolute, with scaly dots, rust-colored beneath: racemes terminal, leafy, turned one way: pedicels short solitary, axillary: calyx acute, 2-bracted at the base: bracts broad-ovate, acuminate: corol oblong-cylindric. Wet. 2 f. *S.* I.

Southern.

augustifolia, (E. Ap-) leaves linear-lanceolate, acute, with scaly dots: bracts 2 and minute, acute: racemes terminal, leafy, secund: peduncles solitary, axillary.

nitida, W. (E. w. r. March. ♄.) very glabrous: branches flexuous, 3-angled; leaves oval, acuminate, entire, 3-nerved: peduncles clustered, 1-flowered, axillary: corol cylindrical: anthers at the base 2-horned. 5 f. Charleston, S. C.

rhomboidalis, P. (E.) flower-bearing branches 3-angled; leaves rhomboid and lanceolate, entire, glabrous, terminated by a gland: peduncles clustered, axillary.

axillaris, (E. w. March. ♄.) leaves oval-lanceolate, acuminate, coriaceous, lucid, with spiny serratures: racemes axillary, closely flowered: corol oblong-ovate: anthers at the summit 2-horned. 3 f.

acuminata, (Ph. (E. w. Ap. ♄.) very glabrous: leaves lance-ovate, tapering towards the apex and acuminate, nearly entire, coriaceous, reticulate: racemes axillary: corol cylindrical: anthers unawned, gibbous near the base. 11 f.

floribunda, Ph. (E. w. M.) very glabrous: leaves oblong ovate, acute, slightly serrulate, coriaceous: racemes secund, axillary, and forming terminal panicles.

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(1) Lyonia paniculata, N. ligustrinae, L.

ferruginea, (w. J. ♄.) shrubby: leaves coriaceous, distant, on long petioles, obovate, generally obtuse, entire, with dust-like scales, and veiny beneath: pedicels aggregate, 1-flowered, axillary: corol globose: anthers unawned. Sand. 4 f. New Orleans.

rigida, Ph. (J. ♄.) leaves crowded, on short petioles, lanceolate, acute at both ends, scaly and tomentose beneath, without veins: pedicels aggregate, axillary, 1-flowered: corol nearly globose: anthers unawned. 18 f.

frondosa, M. (w. M. ♄.) pubescent: leaves obovate-lanceolate, acute, serrulate, tomentose; flower-bearing branches paniculate, leafy: corol globose: anthers awned. 4 f.

speciosa, (w. ♄.) leaves oval-obtuse, mucronate, crenate, reticulate: racemes naked, aggregate: corol campanulate: anthers 4-awned. 4 f.

tetragona, (W. w. M. ♄.) leaves imbricate, keeled, naked at the margin: peduncles axillary, solitary, filiform, 1-flowered: corol nodding, bell-form.

stelleriana, H. ( ) stem filiform, procumbent; leaves 4-6: rays linear, very spreading, obtuse: keel flat above with the back obtuse: peduncle short terminal, sub-solitary curved: calyx 5-leaved; corol broad, bell-form; style ovate-acuminate; anthers awned, two very long. R.

lycopodioides, H. ( ) stem filiform, diffused, vaguely branched; leaves 4-ways, closely imbricate, ovate, short, thick, obtusely keeled; peduncles somewhat in pairs, axillary: corol campanulate. R.

cupressina, H. ( ) stem sub-erect, very branching sub-pinnately: leaves 4-ways, close pressed, imbricate, broad lanceolate keeled: peduncles lateral solitary.

3—2. Andropo'gon. 4. 10.

scoparius, Mx. (broom-grass. O. Au. 2f.) spikes simple, lateral and terminal, pedunculate, in pairs: rachis hairy: abortive floret neuter: valves awned. *purpurascens*. W. S.

virginicus, (bent grass. W. 2f.) culm compressed: superior leaves and sheaths smooth: spikes short, 2 or 3 from each sheath, partly concealed at the base: rachis sub-terete: abortive flower a mere pedicel without valves: perfect flowers monandrous. P. Y. H. M. C.

furcatus, W. (forked spike. O. Au. 2f.) spikes digitate, generally by fours: abortive flower staminiferous, awnless, resembling the perfect one, the awn of which is sub-contorted. S.

macrourus, Mx. (indian-grass. S. 2f.) spikes fasciculate, in dense lateral and terminal fastigiate panicles: flowers monandrous: awn straight: abortive floret without valves. S. P. Y. B. N.

nutans, (1) (beard-grass. O. Au. 2f.) panicle oblong, branched; nodding spikelets by pairs: calyx hairy, rufescent: awn contorted.

Southern.

secundus, E. (S. 2f.) panicle sparingly branched, erect, secund: peduncles 3-flowered; staminate flower subulate, villous: the perfect sessile one, with one valve very villous.

Andropogon. Gr. *aner*, *(andros,)* a man, and *pogon*, a beard, from a fancied resemblance in the little tuft of hairs upon the flower, to the beard of a man.

(1) avenaceus, Mx.

ciliatus, E. (W. S. ♃.) panicle oblong, terminal: branches glabrous: flowers in pairs: calyx hairy: corol ciliate, with a contorted awn. 3 f. *nutans?* P.

melanocarpus, (S.) spikes clustered: flowers solitary, with an involucre: awn very long. 3 f.

ternarius, Mx. (A.) branches remotely alternate, 3-spiked: spikes conjugate; hair of the involucre shorter than the glume; flowers triandrous.

argenteus, E. (Oc. 2ſ.) panicle long, slender; branches solitary, and in pairs: spikes conjugate, longer than the sheath, covered with white silvery hairs.

vaginatus, E. (Oc. 2ſ.) panicle slender, close pressed: spikes solitary, conjugate, shorter than the sheaths: flowers in pairs; the perfect one awned; the awn straight, scabrous.

tetrastachyus, E. (Oc.) panicle slender, erect: spikes solitary, 4-cleft: flowers in pairs; the perfect one awned; leaves hairy. 3 f.

bicornis, W. ( ) spikes conjugate, panicled; panicle bracted, corymbed, fastigiate: flowers ternate, awnless; middle one perfect, sessile; lateral one neutral, pedicelled; ciliae of the rachis very long.

glaucus, T. (W.) smooth, glaucous: culm sub-simple: joints smooth: panicle terminal, much exsert, oblong; spkes alternate, crowded: awns long, twisted: abortive floret neuter unarmed, 1-valved. 2 f.

5—1. ANDROSA'CE. 20. 35.

Southern.

occidentalis, Ph. (W. ☉.) very slenderly pubescent: leaves (or involucres) oblong-spatulate, entire: perianths angled: capsule shorter than the calyx.

carinata, T. & J. (w. J. 2ſ.) leaves crowded, lance-ovate, acute, entire, keeled; margin ciliate: umbels few-flowered; leafets of the involuere linear-oblong: corol exceeding the ovate calyx; divisions obovate entire. James' Peak.

septentrionalis, (W. ☉.) leaves lanceolate, toothed, glabrous, shining: perianth angled, shorter than the corol.

12—13. ANEM'ONE. 26. 61.

virginiana, (wind-flower, thimble weed, O. g-w. Ju. 2ſ.) stem dichotomous: leaves in threes, ternate, upper ones opposite; leafets gash-lobate and serrate-acute: peduncles solitary, 1-flowered, elongated: seed oblong, woolly, mucronate, in heads. 18 i. *S.*

aconitifolia, Mx. (1) (O. W. J. 2ſ.) stem dichotomous: radical leaves palmate; cauline leaves sessile, clasping. 3-cleft; the lower ones ternate, with the lobes acute-lanceolate, gash-serrate; peduncles solitary, 1-flowered: seed in globose heads, naked, subulate-beaked. Flowers large. 15 i. *S.*

dichotoma, (2) (w-r. M. 2ſ.) stem dichotomous: cauline leaves all op-

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Androsace. Gr. *aner*, (*andros*,) a man, and *sakos*, a shield, so called from the large round hollowed leaf of the common Androsace.

Anemone. Gr. *anemos*, the wind, from its opening its flowers in the windy days of spring.

(1) pennsylvanica, L. (2) irregularis, Lk. pennsylvanica?

posite, clasping, 3-cleft: lobes wedge-lanceolate, with the upper ones gash-serrate: peduncles solitary, 1-flowered: seed in a globose head, naked, recurved-mucronate. Canada. Hudson's bay. T.

nemorosa, (low anemone, wood anemone. O. r-w. M. 2*f*.) stem 1-flowered: cauline leaves in threes, ternate: leafets wedge-form, gash-lobed, toothed, acute, corol 5-6-petalled: seeds ovate, with a short style, hooked. A variety, *quinquefolia*, has lateral leaflets deeply 2-cleft. 6 i. *S.* R.

lancifolia, (w. M. 2*f*.) stem 1-flowered: cauline leaves in threes, ternate: leafets lanceolate, crenate-toothed: corol 5-petalled: seeds ovate, with a short style, hooked. P.

thalictroides, (1) (rue anemone O. w. M. 2*f*.) umbels involucred: radical leaves twice ternate, leafets sub-cordate, 3-toothed: involucre 6-leaved; leafets petioled, uniform: umbel few-flowered: seed naked, striate: root tuberous. A variety, *uniflora*, has a 1-flowered involucre. 6—10 i. *S.*

narcissiflora, W. (W. w. Ap. 2*f*.) flowers umbelled, involucred: radical leaves palmate-many-cleft, gashed; divisions linear; involucres sessile, gashed: umbels few-flowered: pedicels longer than the involucre. Canada.

canadensis, Ph. (2) (w. Ap. 2*f*.) stem 1-flowered, involucred: leaves ternate; leafets sessile, wedge-form, truncate-crenate at the apex: involucre 3-leaved: corol 5-petalled: seed head-globose, acuminate, woolly.

patens, W. (M. p. 2*f*.) soft-silky: late leaves 3-parted or 3-nerved; segments wedge-form, gash 3-cleft, lobes lance-linear: involucre linear, many-cleft: flowers erect; calyx 5 or 6-leaved, bearded, with long awns. Rocky Mts. Upper Canada.

alpina, (W. w. 2*f*.) silk-villose: leaves long-petioled, biternately pinnatifid; leafets with linear acute divisions conforming to involucres: flowers erect: calyx leaves 6, spreading, bearded with long awns. Rocky Mts.

baldensis, (W. b. 2*f*.) leaves glabrous, somewhat fleshy, ternate-parted, with segments 3-parted with linear obtuse divisions, short-petioled, conforming to involucres; petioles and scape villose: flower solitary: calyx leaves 6—8 spreading obtuse, sub-pilose outside. *R.*

deltoidea, (W. w. 2*f*.) leaves ternate; leafets rhomboid, entire or trifid, gash serrate, acute, (leafets and involucres sessile:) calyx leaves 5 or 6, obovate. W. of Rocky Mts.

richardsoni, Hk. (W. 2*f*.) sub-pilose leaves reniform, 3—5-parted; lobes subtrifid, acutely toothed; involucre-like leaves round-wedge-form, sessile, 3-cleft and toothed; calyx-leaves 6, spreading: fruit compressed, glabrous; styles long, deflexed, hooked. Rocky Mts. Hudson Bay.

multifida (w. r. y. 2*f*.) pilose leaves 3-parted; segments wedge-form, in 3-parted linear acute divisions; involucre-like leaves petioled: calyx leaves 5 to 8, sub-coriaceous, oval, silky outside. Canada. Rocky Mts.

Exotic.

hortensis, (garden anemone.) radical leaves digitate; divisions 3-cleft; cauline ones ternate, lanceolate, connate, sub-divided: seed woolly.

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(1) Thalictrum anemonoides, Mx. (2) parviflora, Hk.

Southern.

carolinia'na, W. E. (1) (W. w. March 2f.) leaves ternate: leafets notched and serrate: involucre 3-leaved, each 3-cleft: petals 14 to 20, oval; the outer one sub-coriaceous.

walte'ri, Ph. (2f.) radical leaves palmate, long-petioled: scape long, erect, 1-flowered: petals 3: root tuberous.

ludovicia'na, N. (W. r-b. Ap. 2f.) scape 1-flowered, involucred, soft-woolly: leaves digitate, many-cleft, upper surface smooth; segments entire, linear, acute: petals 6, oblong-ovate, erect.

Anemone. HEPATICA.

5—2. ANE'THUM. 45. 60.

Exotic.

graveo'lens, (dill.) fruit compressed: plant annual.

foenicu'lum, (fennel.) fruit ovate: plant perennial.

5—2. ANGEL'ICA. 45. 60.

triquina'ta, Mx. (2) (angelica. O. w. Au. 2f.) stem terete, pubescent above: leaves ternate, very smooth; partitions quinate; leafets oblong-ovate, equally serrate: lower ones 2-lobed at the base. 4 f. *S.*

atropurpu'rea, (high angelica. O. g-w. J. 2f.) stem smooth, colored: leaves ternate; partitions sub-quinate; leafets ovate, acute, gash-serrate, sub-lobed; 3 terminal ones confluent: petioles very large, inflated. Wet meadows. Root purplish. This is the true aromatic angelica. 4 f. *S.* Probably synonymous with the last. Tully.

lu'cida, (2f.) leafets equal, ovate, gash serrate: radical leaves 3-pinnate, cauline ones 2-pinnate. 18 i. Canada. *S.*

Exotic.

archange'lica, (archangel. ♂.) leaves with the odd terminal leafet lobed. N. W. Coast.

gmeli'ni, stem glabrous terete: leaves gash-ternate, segments 3-parted with the lobes ovate, serrate, cuneate at the base; leaves of the involucels nearly equalling the flowering umbels. N. W. Coast.

12—12. ANNO'NA. 52 76.

glabra, (Lu. r-y. ♄.) calyx large, bell-form: leaves lance-ovate, glabrous: peduncles 2-flowered, opposite to the leaves: fruit subconic, obtuse, smooth. 16 f. evergreen tree. Carolina.

4—1. ANO'TIS. 47. 57.

Southern.

lanceola'ta, Dc. ( ) glabrous: stem erect, 4-cornered, corners subalated: leaves sessile lanceolate, acute; stipules lanceolate membranaceous: corymbs trichotomous terminal.

Anethum. Gr. *ano*, upward, and *theino*, to shoot from its quick growth.

Angelica. Lat. *angelica*, angelic, from the supposed virtues of its root and seeds.

Anotis. Gr. *a*, without, *notos*, vapor or humor, on account of growing on high frozen mountains.

(1) tenella, Ph. (2) Ferula canadensis. See Ferula.

rotundifolia, Dc. (W. 2f.) stem prostrate, branching, branches 4-cornered: leaves sub-orbicular, short-petioled; stipules very small; flowers axillary.

17—2. ANTENNA'RIA. 49. 55.

A sub-genus of Gnaphalium, which see.

17—2. AN'THEMIS. 49. 55.

arvensis, (corn chamomile, W. w-y. J. ☽.) receptacle conic, chaff lanceolate: seed crown-margined: leaves 2-pinnate, sub-divided: segments lance-linear: stem and peduncles pubescent; leaves somewhat distant; flowers few. Scarcely odorous. Introduced. 8 i. T. Y. O. P.

cotula, (mayweed. O. w. J. ☉.) receptacle conic, chaff bristly: seed naked: leaves 2-pinnate, leafets subulate, 3-parted: flowers smaller than the last, more numerous, very oderous. Introduced. 10 i. *S.*

Exotic.

nobilis, (chamomile. w. Au. 2f.) leaves 2-pinnate; leafets 3-parted, linear-subulate, sub-villous: stem branching at the base. Fragrant. In 1820, I saw this plant growiug wild very extensively, in cultivated fields in Pittsfield, Mass. 4 i.

Anthericum, NARTHECIUM.

Anthopogon, GYMNOPOGON.

2—2. AN'THOXAN'THUM. 4. 10.

odoratum, (sweet vernal grass. O. M. 2f.) spike oblong-ovate; florets sub-pedunclcd, shorter than the awn. An American variety, *altissimum*, is larger, and of a darker green. Ives. An elegant substitute for the Leghorn grass. Dewey. 10—18 i. *S.*

13—2. AN'TIRRHI'NUM. 40. 37.

elatine, W. (creeping snap-dragon. y. Ju. ☉.) procumbent pilose: leaves alternate, hastate, entire: peduncles solitary, very long. P. T.

linaria, (snap-dragon. toad-flax. W. y. Ju. 2f.) erect, glabrous: leaves scattered, lanceolate-linear, crowded together: spikes terminal, dense-flowered: calyx glabrous, shorter than the spur. Flowers large—Naturalized. 1—2 f. T. P. B. N.

canadense, W. (flax snap-dragon. W. w-b. J. 2f.) rising in a curve, glabrous, simple: leaves scattered irregularly, erect, narrow, linear, obtuse, remote: flowers racemed: scions procumbent. Flowers small. *S.* C. Y. T. P. B. N.

Exotic.

trianthophorum, (three-birds.) leaves whorled, lanceolate, 3-nerved: stem decumbent: racemes terminal, few-flowered. Flowers large.

Antennaria. In allusion to the awns of the puppus which resembles the Antennæ of some insect.

Anthemis. Gr. *anthos*, flower, because of the abundance of its flowers.

Anthoxanthum. Gr. *anthos*, a flower, and *xanthos*, yellow, from the spikes inclining to that color in maturity.

Antirrhinum. Gr. *anti*, like, and *rhis*, *rhinos*, nose, because the corol resembles the snout of some animal.

Anychia, QUERIA.

17—1. APAR'GIA. 49. 53.

autumnalis, W. (1) (false hawkweed. y. J. 2ℓ.) scape branching, scaly: leaves lanceolate, runcinate-pinnatifid, smeotish. Naturalized. N. B. Newfoundland.

Southern.

crontium, W. (Ju. ☺) erect, branching, hairy: leaves alternate, lanceolate: flowers sub-spiked: calyx digitate, longer than the tailless corol. E. P.

tenellum, Ph. (W. b. Ju. ☺.) small, simple, glabrous: leaves opposite, linear, acute; flowers axillary, short-peduncled: calyx bell-form.

4—2. APHA'NES. 35. 92.

Southern.

arvensis, (parsley-piert. M. ☺.) leaves 3-parted: divisions 3-cleft, hairy: flowers axillary, glomerate: monandrous.

Apios. PHASEOLUS.

5—2. A'PIUM. 45. 60.

Exotic.

petroselinum, (parsley. Ju. ♂.) cauline leaves linear: involucre minute.

graveolens, (celery. Ju. ♂.) stem channelled: cauline leaves wedge-form.

18—1. APLEC'TRUM. (2) 7. 21.

hyemale, W. (putty root, Adam and Eve. W. g-p. M. 2ℓ.) leaf single, radical, lance-oval, many-nerved: lip 3-cleft, not produced at the base. C. N. K.

18—5. APO'CYNUM. 30. 47.

androsaemifolium, (dog-bane. O. r-w. Ju. 2ℓ.) stem erect and branching: leaves ovate, glabrous: cymes lateral and terminal: tube of the corol longer than the calyx, with a spreading limb. 3 f. Leaves downy when young. S.

cannabi'num, Mx. (3) (indian hemp. O. g-y. J. 2ℓ.) stem erect and branching: leaves oblong-oval, hoary beneath, and downy when young, (more or less glabrous in maturity:) cymes lateral and terminal; pubescent when young, (more or less glabrous in maturity:) tube of the corol about equal to the calyx, with an erect limb. 3 f.

hypericifolium, A. (4) (St. John's dog-bane. W. g-w. Ju. 2ℓ.) stem erectish and branching: leaves lanceolate, glabrous mucronate; lower ones

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Apargia. Gr. *apargia*, probably the name for the succory.

Aphanes. Gr. *a*, priv. *phainomai*, to appear, from the low stature of the plant.

Apium. Celtic *apon*, water, from the habitation of some species.

Aplectrum. From Gr. *a*, without, and *plectron*, a spur, from the form of the corol.

Apocynum. Gr. *apo*, far from, and *kuon*, (*kunos*,) a dog, it being supposed destructive to those animals.

(1) Leontodon. (2) Corallorhiza. (3 & 4) pubescens, Br.

sub-cordate at the base: cyme-panicles mostly shorter than the leaves: tube of the corol about equal to the calyx. 3 f. P. Y. O. N. T.

Remark. Dr. Torrey says he follows R. Brown in the species of this genus, in which he finds some confusion. Brown seems to have forced in an additional species, not found in nature. See Darlington, page 31. The two first species have lately been much used in the cure of diseases, under the name, Wandering Milkweed, by a peculiar class of practitioners.

17—1. Apo'gon. 49. 53.

Southern.

humilis, E. (y. Ap. ☉?) stem branching, glabrous: radical leaves oblong, narrow, sub-ovate, sessile; cauline ones strap-form, acute, entire, sessile, slightly glaucous: flowers terminal, sub-umbelled. 6—12. i. S.

lyratum, N. (W. y. ☉.) glabrous glaucous: leaves deformed entire, or petioled runcinate, with remote divisions, cauline ones clasping: stem sub-divided, few-flowered: calyx glabrous; flowers sub-umbelled. 6 i.

3—1. Apte'ria. N. 40. 13.

setacea, N. (W. w. & p. ☉.) Stem with minute, ovate, remote scales, flowers, spikes with bifid branches. 6 i. St. Louis and in Florida.

12—5. Aquile'gia. 26. 61.

canadensis, (wild columbine. O. r. & y. Ap. 2f.) horns strait: stamens exsert: leaves decompound. Growing frequently in crevices of rocks. 15 i.

brevistylis, Hk. (W.) sub-pubescent; spur incurved, shorter than the limb: stipe short inclined: stamens rather shorter than the corol. Upper Canada.

leptocera, N. (y. J.) calyx straight, very long, slender, divisions acute large, much longer than the stamens and styles: stem few-flowered: divisions of the leaves wedge-form, gash 3-cleft. R.

Exotic.

vulgaris, (garden columbine. J. 2f.) horns incurved: leafy: stem and leaves glabrous: leaves decompound. The nectariferous horns become numerous by culture; one hollow horn within another. 15 i.

Southern.

coerula, T. & J. (W. b. J. 2f.) horns straight, about twice as long as the limb of the petals: stamens and styles shorter than the corol: nectaries acute: segments of the leaves deeply lobed. 18 i. R.

14—2. Ar'abis. 39. 63.

sagittata, (wall cress. w. J. ☉. ♂.) leaves sub-dentate, rough, with the pubescens often branched; radical ones ovate or oblong, attenuated into a petiole; stem-leaves lanceolate, sagittate-cordate: pedicels as long as the calyx: siliques straight and erect. 18 i. C.

Apogon. Gr. *a*, without, and *pogon*, beard.

Aquilegia. Lat. *aquila*, an eagle, its nectaries resembling eagles' claws.

Apteria. Gr. *a*, without, *pteris*, wing; from the wingless corol.

Arabis. From *Arabia*, this genus being first used by physicians of that country.

thaliana, W. (mouse-ear cress. W. w. Ju. ☉.) leaves hairy, sub-dentate: radical ones oblong, petiolate: stem branched, hairy at the base: siliques ascending: pedicels much longer than the calyx. 6 to 12 i. W. P. T. Y. C.

lævigata, (1) (W. w. M. 2ſ.) stem-leaves linear, oblong, sagittate, smooth; lower ones obovate: pedicels erect: siliques very narrow and long, at length pendulous. 2 f. O. T. D. C.

canadensis, W. (2) (sickle pod, O. w. J. 2ſ.) stem leaves sessile, oblong, lanceolate, narrow at the base, pubesent: pedicels pubescent, reflexed in the fruit: siliques pendulous, sub-falcate, nerved. 2 f. S. T. P.

rhomboidea, P. (spring cress. O. w. M. 2ſ.) leaves glabrous, rhomboidal, repand toothed, the lower ones nearly round, on long petioles: root tuberous. 15 i. Wet. S.

alpina, W. (w. 2ſ.) sub-diffuse, branching: leaves many-toothed, villose, lanceolate, acute; radical ones sub-petioled: cauline ones heart-clasping: pedicels longer than the sub-glabrous calyx. Upper Canada. Said to have been found near Troy?

reptans W. (Ju. 2ſ.) leaves roundish, entire, hirsute: having creeping shoots. P. Y.

stricta, Hk. (Bristol wall cress, w. 2ſ.) radical leaves oblong, tapering to the base, sub-lyrate-pinnatifid, hispid, with ramose hairs; cauline ones few, lanceolate, somewhat tapering to the base: petals oblong erect, obtuse, twice as long as the glabrous calyx: silique elongated, erect. Canada, Troy?

lyræfolia, Raf. (W.) smooth, stem straight, very simple, radical leaves lyrate, cauline ones sessile, oblong, acute, toothed: silique sabre-form. In woods, S. T.

petrea, H. (O. w. A. ♂.) stem erectish or diffused, glabrous: radical leaves rather long-petioled, entire, toothed or lyrate-pinnatifid; cauline ones lanceolate sub-petioled, entire or toothed; petals obovate unguiculate: siliques exert-spreading. Hooker says this our A. *lyrata* is the European A. *petrea*, which I here adopt.

pendula, W. (W. ☉.) leaves sagittate, oblong, clasping, entire, smooth: silique 2-edged, linear, pendulous.

hirsuta, Hk. (W. w. ♂.) erect; most leaves toothed, hirsute; radical ones ovate-oblong, petioled; cauline ones oval or lance-sagittate: siliques numerous, erect, straight. 6—12 i. N? R. Canada. Hudson's Bay, &c.

Arabis CARDAMINE.

16—10. A'RACHIS. 32. 93.

Exotic.

hypogæa, (pea-nut, false ground-nut. ☉.) stem pilose, procumbent: leaves pinnate, abrupt: flowers axillary. Peduncles become elongated, and deposit fruit under ground to ripen. T.

5—5. ARA'LIA. 46. 59.

spinosa, W. (shot-bush, angelica tree, W. w. y-w. Au. ♄.) woody: stem

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Arachis. Gr. *arakos*, a kind of rooting plant, used by the ancients: after which this was named, as it produces its fruit under ground.

Aralia. A name of an unknown Canadian.

(1) Turritis lœvigata W. (2) falcata Mx.

and leaves thorny, leaves doubly pinnate; leafets slightly serrate: panicles very branching: umbels numerous. 5—10 f. *S.* P. H.

hispida, Mx. (bristly-stem sarsapilla. A. w. J. ♄.) low, sub-shrubby: stem and petioles rough with bristles: leaves doubly pinnate; leafets ovate, gash-serrate, unarmed, glabrous: umbels with long peduncles. Neglected fields. 20 i. T. M. N.

racemosa, W. (spikenard. O. w. J. 2ſ.) spreading branches: petioles 3-parted, the partitions 3—5-leaved; leafets often heart-form: branchlets axillary, leafy: umbels many, sub-panicled, leafless above. Damp. 4 f. *S.*

nudicaulis, W. (wild sarsaparilla. O. w. M. 2ſ.) hardly a proper stalk, 1-leafed; the leaf twice ternate, or once, and quinate: leafets oblong-oval: scape naked, shorter than the leaf; umbels few. Woods. 15. 24 i. *S.*

spinacea, (L.) stem very spinous: leaves sub-palmate very acute, lobes gashed; petioles and nerves spinous: the little umbels globose, disposed in racemes.

10—1. Ar'butus. 18. 51.

uva-ursi, W. (1) (bear-berry, kinnikinnick. O. w-r. M. ♄.) stem procumbent: leaves wedge-obovate, entire: berry 5-seeded. Dry, barren sand-plains, &c. Very abundant about the great lakes. Schoolcraft. T. N. R.

laurifolia, W. (W. ♄.) leaves oblong, acuminate at both ends, acutely serrate, glabrous: racemes axillary, one-sided, sessile, solitary.

menziesii, Ph. (W. ♄.) becoming woody: leaves broad-ovate, entire, glabrous, having long petioles; racemes axillary and terminal, panicled, dense-flowered.

tomentosa, Ph. (W. ♄.) becoming woody: branches hispid: leaves oval, acute, sub-cordate at the base, white-downy beneath, having short petioles: peduncles axillary, of the length of the leaves, bearing head-racemes: flowers bracted.

alpina, (strawberry-tree, w. M. ♄.) stem-procumbent: leaves obovate, acute, rugose, serrate: racemes terminal. Canada.

5—2. Archemo'ra. 45. 60.

ambigua, Ph. (water drop-wort, W. w. Au. 2ſ.) leaves gash-pinnate, 3—5 pairs, acute, leafets lance-linear, often falcate and mostly entire: fruit ovate: stem smooth. 3—5 f. Y. P.

rigida, (W. w. S. 2ſ.) leaves gash-pinnate, smooth leafets lance-oblong entire, or with remote teeth: stem terete, striate. 2—4 f. P. Y.

tricuspidatum, (Ju. 2ſ.) leaves gash-pinnate, lower leafets lanceolate, upper ones obovate. 2—3 f.

20—4. Arceutho'bium. 43. 58.

oxycedris, M. Bieb. (false misletoe.) leafless; very branching, branches

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Arbutus. Lat. *arbutus*, Pliny's name for the wild strawberry-tree.

Archemora. Gr. *arche*, the conquerer, *moros*, fool, on account of its poisoning those who are foolish enough to eat it. Called fool's parsley.

Arceuthobium. Gr, *arkeuthos*, juniper tree; *bios*, life, on account of its living on the juniper or cedar trees.

(1) Arctostaphylos. Sl.

opposite: obtusely 4-cornered: flowers terminal, sometimes lateral, very small. Resembles the Salicornia in its articulated branches. Parasitical, growing on the Pinus ponderosa. R.

17—1. ARC'TIUM. 49. 54.

lappa, (burdock. O. r. Au. 2ſ.) cauline leaves heart-form, petioled, toothed: flowers panicled, globose: calyx smooth.

10—3. ARENA'RIA. 22. 82.

serpyllifolia, W. (thyme leaved sand-wort. W. w. Ju. ☉.) stem dichotomous, spreading: leaves ovate, acute, sub-ciliate: calyx acute, sub-striate: petals shorter than the calyx. 5 i. *S.* P. H. O. C. T.

glabra, Mx. (w. O. 2ſ.) very glabrous, sub-erect, filiform, many stems: leaves subulate-linear, flat, spreading: pedicels 1-flowered, elongated, divaricate: leafets of the calyx oval, obtusish, smooth, shorter than the petals. 4—6 i. Shawangunk, White Mts. N.

stricta, Mx. (W.A. w. M. 2ſ.) glabrous, erect, many stems: leaves subulate-linear, erect: panicles few-flowered: petals much longer than the calyx, which is oval-lanceolate, apparently striate. Dry. 6—12 i. N. T. D. H.

squarrosa, Mx. (w. Ju. 2ſ.) turfy: lower leaves scaly-imbricate, channelled, glabrous: stems few, very simple: flowers few, terminal, erect: petals much larger than the roundish calyx. 6 i. Y.

rubra, Mx. (1) (red sand-wort. r. J. ☉.) glabrous, humifuse: leaves filiform, fleshy, much longer than the joints: stipules connate-membranaceous, sheathing: stamens 5: capsule angular or globose. 8 i. P. Y. C. T. R.

thymifolia, Ph. (Labrador. L. ☉.) stem dichotomous, diffuse: leaves oval, sub-acute: peduncles alternate, axillary, solitary, elongated: calyx acute: petals of the length of the calyx.

macrocarpa, (W. 2ſ.) cespitose: leaves crowded, linear-subulate, flat; margin ciliate: peduncles terminal, 1-flowered: leaves of the calyx linear: petals ovate, twice as long as the calyx: capsule thrice as long as the calyx.

fasciculata, W. (☉.) sub glabrous, cespitose: stems straight-erect: leaves subulate, pungent, striate: flowers dense-fascicled: calyx subulate, striate: petals very short. Canada.

laricifolia, W. (W. 2ſ.) pubescent, cespitose-many-stemmed: leaves setaceous: little stems 1 to 3-flowered, erect: leafets of the calyx linear, sub-hirsute, half as long as the petals. Canada.

juniperina, W. (W. 2ſ.) sub-pubescent, erect, many-stemmed: leaves subulate, somewhat 3-sided, pungent: panicle terminal, dichotomous, many-flowered: leafets of the calyx lance-ovate, striate, mucronate, about half as long as the petals. Newfoundland. D.

propinqua, Hk. (W. 2ſ.) cespitose, glandular-hairy: leaves linear-subulate, acute, 3-nerved: calyx acute, 3-nerved, scarcely longer than the petals, shorter than the capsule. Probably the *verna* is a variety of this. Rocky Mts. and West of them.

Arctium. Gr. *Arctos*, a bear, from the rough bristly fruit.
Arenaria. Lat. *arena*, sand, from its native soil.
(1) canadensis. P.

rubella, Hk. (W. 2f.) stems cespitose, numerous: peduncles terminal, pubescent. 1-flowered: leaves linear-subulate, obtuse, 3-nerved: petals lance-oval, and shorter than the 4-valved capsule, or the lanceolate acute 3-nerved calyx. R.

rossii, Hk. (W. 2f.) very glabrous: leaves 3-sided-subulate, obtusish, beardless, nerveless, scarcely equalling the flower: peduncles 1-flowered, elongated: petals oblong, somewhat exceeding the obsoletely 3-nerved calyx. R.

franklinii, Douglas, (W. 2f.) branches erect, level-topped, numerous, fragile: leaves shining, subulate-setaceous: flowers fascicled: divisions of the calyx subulate, scarious, broad-nerved, exceeding the oblong petals. W. R.

laxifolia, Hk. pubescent: leaves ovate-oblong, sessile: stem creeping: peduncles dichotomous, somewhat 2-flowered: disvisions of the calyx linear, short, obtuse, membranaceous at the margin; petals scarcely longer than the calyx: capsule ovate, obtuse, equalling the calyx. Canada.

lateriflora, Hk. (sand-wort. W. w. J. 2f.) minutely pubescent: stem erect, slender, simple or fork branched: leaves oblong, oval, obtuse, ciliate, spreading: peduncles lateral and terminal, elongated, 2 to 4-flowered; pedicels alternately bracted: divisions of the calyx oval, obtuse, nerveless: about half as short again as the corol. 6—10 i. N. T. R. Hudson's Bay.

peploides, Hk. (sea chickweed, Ju. 2f.) glabrous: leaves ovate or oblong, acute, fleshy: flowers sub-solitary, short-peduncled: divisions of the calyx obtuse, exceeding the corol. 8—12 i. Lower Canada, Labrador. Y.

obtusa, T. (1) (W. A. 2f.) cespitose, many-stemmed: leaves linear-subulate, obtusish, keeled, a little 1-sided: stem simple, mostly 1-flowered: peduncles with glandular hairs: nectaries oblong-obtuse, 3-nerved: petals about twice as long as the calyx: capsules ovate, shorter than the calyx. D.

Southern.

diffusa, E. (w. Ap.) pubescent; stem diffuse, branching: leaves lance-oblong, acute at both ends: peduncles solitary, axillary, twice as long as the leaves: petals much shorter than the calyx.

patula, Mx. (W. 2f.) pubescent: stems filiform, panicled, many-flowered: leaves setaceous: subulate, spreading: petals sub-emarginate, longer than the acute striate calyx. K.

18—1. ARETHU'SA. 7. 21.

bulbosa, W. (arethusa. r. J. 2f.) leafless: root globose: scape sheathed, 1-flowered: calyx with the superior divisions incurved: lip sub-crenulate. Flowers large, sweet-scented. Damp. T. N.

Arethusa, see TRIPHORA and POGONIA.

Arethusa. From the celebrated fountain of that name near Syracuse, or from one of the Hesperides.

(1) arctica of Hk. Rocky Mts. James.

12—1. Argemo'ne. 27. 62.

mexicana, W. (Prickly poppy. y. Ju. ☉.) leaves pinnatifid, gashed, spinose: flowers axillary. Var. *albiflora*, leaves pinnatifid: flowers large. *S.* P. H. Platte river.

3—2. Aris'tida. 4. 10.

dichotoma, Mx. (beard grass, poverty grass. O. S. ♂. 2[.) cespitose: culm dichotomous: flowers racemose-spiked: lateral awns very short, intermediate ones contorted. 8—12 i.

stricta, Mx. (2[.) culm and leaves straight, erect: leaves pubescent: raceme long, somewhat spiked, crowded: awn twice as long as the corol, spreading. 3 f. *S.* P.

purpurascens, (S. 2[.) culm filiform, erect, simple: leaves very narrow, flat: flowers in a long-spiked panicle: awns nearly equal, twice the length of the corol. 2 f. *S.*

Southern.

spiciformis, E. (S. 2[.) flowers crowded together, somewhat spiked: the middle awn villous at the base. 3 f.

gracilis, E. (S. 2[.) stem very slender: flowers in spikes: spikelets few-flowered, somewhat remote, appressed: lateral awns short, erect; the intermediate ones longer, expanding. 1 f.

lanosa, M. (S. 2[.) panicle erect, appressed: flowers in racemes: calyx longer than the corol: sheaths of the leaves woolly. 2—4 f.

oligantha, Mx. (J. 2[.) culm straight, sub-ramose: leaves convolute-filiform: flowers solitary, distant: awn long, divaricate. *S.* P.

fasciculata, T. (W.) culm filiform, erect, branched: leaves narrow, flat, smooth: panicle long, sub-spiked: flowers in fascicles: calyx shorter than the corol: awns nearly equal, spreading, longer than the flower.

pallens, (W.) panicle few-flowered, pedicelled, alternately 2-flowered, approximate; awn capillary, very long: leaves filiform.

tuberculosa, N. ( ) culm erect, dichotomous, joints tumid, with small tubercles in the axils: panicles rigid: valves of the calyx keeled, with long subulate points: corol stiped; awns smooth, convolute. 3 f.

18—6. Aristolo'chia. 11. 23.

sipho, Hr. (birthwort. W. w. J. ♄.) leaves heart-form, acute: stem twining; peduncles 1-flowered, furnished with an ovate bract; corol ascending; limb 3-cleft, equal. A very high running vine, with large leaves: flowers yellowish brown. P. K.

serpentaria, (W. p. J. 2[.) leaves heart-form, oblong, acuminate: stem zigzag, ascending; peduncles radical: lip of the corol lanceolate. (The Virginia snake-root.) There is a variety with very long, narrow leaves. Tonic and diaphoretic. Bw. P. Y. D. O. H. K.

Southern.

tomentosa, Sims. (A. g-y.) stem twining: leaves roundish-cordate, downy beneath: corol villous; border 3-cleft, nearly equal.

Argemone. Gr. *argema*, the cataract, a disorder of the eyes, which it was said to cure.

Aristida. Lat. *arista*, an awn, characteristic of the genus.

Aristolochia. Gr. *aristos*, best, and *lochsia*, parturition.

hastata, N. (A) stem flexuose, simple, erect: leaves somewhat cordate, hastate, acute: flowers on scapes; lip of the corol ovate.

11—1. ARMENIA'CA. 36. 92.

Exotic.

vulgaris, (apricot. ♄.) leaves sub-cordate; stipulus palmate. Var. ***precox***, (early apricot.) fruit small, yellow. Var. ***persicoides***, (peach apricot,) fruit sub-compressed.

dasycarpa, (black apricot. ♄.) leaves ovate, acuminate, doubly serrate: petioles glandular: drupe globose, pubescent.

17—2. AR'NICA. 49. 55.

nudicaulis, (y. J. ♄.) hairy: radical leaves decussate and opposite, oblong-oval, sub-dentate: stem nearly leafless, divided at the top into several 1-flowered branches. Woods. 18 i.

doronicum, W. (A. y. Ju. ♄.) leaves remote, toothed, woolly-hirsute beneath; radical ones petioled, oblong, narrow at the base; cauline ones alternate, lance oblong: stems 1-flowered. 7 i.

plantaginea, Ph. (A. y. Ju. 2f.)glabrous: leaves entire, glabrous both sides, acute, 3-nerved; radical ones lance-spatulate, terminating in a narrow petiole at the base; cauline ones opposite, lanceolate, sessile: stem 1-flowered. 7. i.

maritima, W. (W. ♄.) leaves lanceolate; lower ones serrate: stem leafy, many-flowered.

Southern.

fulgens, Ph. (W. y. Ju. 2f.) hairy: radical leaves lanceolate, obtusish, tapering to the base: petioles 3-nerved: cauline leaves opposite, remote, linear: stem 1-flowered. 1 f.

claytoni, Ph. (E. y. Ju. ♄.) hirsute: radical leaves decussately opposite, oblong-ovate, sub-dentate: stem somewhat leafless; top divided into 1-flowered peduncles. 2 f.

11—5. ARONI'A. 36. 92.

arbutifolia, (1) (red choak-berry. O. w-r. M. ♄.) leaves lance-obovate, crenate-toothed, downy beneath, with the midrib glandular above: flowers corymbed: calyx downy. Damp. 2—4 f. Leaves sometimes glabrous.

botryapium, P. (2) (shad-bush, june-berry. O. w. Ap. ♄.) leaves oblong-oval, cuspidate, glabrous when mature, (when first expanded lanceolate and downy:) flowers racemed: petals linear: germs pubescent:? segments of the calyx glabrous without, and hairy within. 8—30 f.

Armeniaca. From Armenia, whence it was brought.

Arnica, This is said to be a variation of *ptarmica*, derived from Gr. *ptairo*, to sneeze. Others derive it from Gr. *ars*, (*arnos*,) a lamb, the leaf of this plant resembling the coat of the lamb.

Aronia. Gr. *aroniz*, the medlar tree.

(1) pyrifolia, P. Pyrus arbutifolia, W. Mespilus arbutifolia, L., and erythrocarpa, Mx. (2) Pyrus botryapium, W. Mespilus canadensis, L. Amelanchier, Med.

sanguinea, (3) (bloody choak-berry. W. w. M. ♄) leaves oval, obtuse at both ends, mucronate; serratures very slender: racemes few-flowered: calyx glabrous: petals linear, obtuse. 3—6 f. T. B.

melanocarpa, (4) (black choak-berry. O. w. M. ♄.) leaves obovate-oblong, acuminate, mucronate, serrate, glabrous beneath; midrib glandular above: flowers corymbed: calyx glabrous. Damp. 4—6 f. T.

ovalis, P. (5) medlar bush. w. M. ♂.) leaves round-oval, acute glabrous: flowers racemed: petals obovate: germ, and segments of the calyx pubescent. Var of *botryapium?*

Southern.

alnifolia, N. (W. M. ♄.) smooth: leaves roundish, upper part toothed, pinnately nerved, sub-glaucous beneath: raceme simple, elongated. Fruit black and sweet.

3—2. ARRHENATH'ERUM. 4. 10.

avenaceum, (J. 2ℓ) panicle equal, nodding: awn as long again as the flower: culm geniculate, smooth: root nodose. 3 f.

pennsylvanicum, (Ju. 2ℓ.) panicle attenuated: branches short, alternate: awn twice as long as the florets: seeds villous.

Southern.

kentuckiensis, T. (W. 2ℓ) branches of the panicle fascicled, not alternate: upper floret has the superior valve furnished with a short awn a little below the tip.

17—2. ARTEMI'SIA. 49. 55.

canadensis, Mx. (wild wormwood. O. w. y. Au. 2ℓ.) sub-decumbent, scarcely pubescent: leaves flat, linear-pinnatifid: branchlets spike-flowered: flowers sub-hemispheric: calyx scarious. Receptacles smooth. 3—4 f.

caudata, (W.? L. S. 2ℓ.) stem simple, herbaceous, much branched, pyramidal: radical and cauline leaves bipinnate, pubescent: upper ones pinnate, with sub-setaceous, alternate, divaricate, somewhat convex, segments: flowers pedicelled, erect, globe-ovate. 2 f. *S.*

chinensis, W. (W. S. 2ℓ.) hoary: lower leaves wedge-form, obtuse, 3-lobed; upper ones linear, obtuse: flowers globose, peduncled, nodding.

spithamea, Ph. (. S. 2ℓ.) small, silky-pubescent: lower leaves linear, upper ones pinnatifid; divisions few, linear, acute: flowers racemed, short-peduncled, hemispheric. calyx scarious.

gnaphaloides, N. (W. S. 2ℓ.) white-downy: stem simple, herbaceous: leaves lance-linear, sub-entire, downy both sides: flowers raceme-glomerate, pedicelled, nodding: calyx oval-oblong: the pistillate florets 6 or 7. 2 f.

Arrhenatherum. Gr. *arrhen*, stamen, and *atheirēs*, sharp pointed.

Artemisia. From *Artemisia* the wife of Mausolus, or from *Artemas*, a name of Diana.

(3) Pyrus sanguinea, Ph. (4) arbutifolia, P. Pyrus melanocarpa, W. Crataegus arbutifolia, Lk. Mespilus arbutifolia, Var. melanocarpa, Mx. (5) Mespilus canadensis. Var. obovalis, Mx. Crataegus spicata, Lk.

vulgaris, (W. mugwort. S. 2f.) leaves downy beneath: cauline ones pinnatifid; divisions lanceolate, sub-toothed, acute; floral ones undivided, linear-lanceolate: flowers sub-sessile, oblong erect: calyx downy. R.

longifolia, N. (W. 2f. & ♄.) stem simple: leaves mostly entire, lance-linear, acuminate; margin reflexed; under side white-downy: flowers cylindric-ovate, erect, in sessile conglomerate racemes. ***ludoviciana?*** N. R.

indica, W (2f. ♄.) somewhat woody; erect, raceme-panicled, ovate; panicle leafy, spreading, racemes before flowering pendulous; florets naked; outer scales of the calyx leafy acute; inner ones membranaceous obtuse; leaves ash-tomentose beneath: inferior ones pinnatifid, upper ones trifid, top ones simple, divisions lanceolate, inferior sub-dentate or gashed. Canada.

purshiana, Bess. (2f. ♄.) ascending whitish: heads in an ovate panicle, which is leafy and straight; florets naked, leafets white beneath; cauline leaves lance-cuneate mucronate entire. A. R.

douglassii, Bess. (2f.) sub-fruticose, straight, whitish: heads in spiked, hemispheric panicles; panicle sub-foliaceous, florets naked, scales of the calyx oval, inner ones scarious at the apex, leafets whitish beneath: cauline leaves lanceolate acute entire. R.

arctica, Bess. ( ) cespitose: heads raceme-spiked, glomerate globose: peduncles woolly at the tip: florets sub-pilose at the apex: scales of the calyx fuscous scarious above: leaves somewhat silky, cut-pinnate below, trifid above, divisions of the radical ones tri-quinate, of the upper ones undivided, linear, obtuse. A.

lindleyana, Bess. (♄.) whitish above, spike with panicled sub-hemispheric heads erect: florets naked; scales of the calyx scarious at the apex, outermost foliaceous; leaves sub-linear white-tomentose beneath. R.

hookeriana, Bess. (2f. ♄.) erect: heads thyrse-panicled, globose nodding, scarcely leafy: heads white-woolly with scales scarious at the margin, rounded: leaves whitish, cauline ones pinnatifid, divisions and floral leaves lance-linear acute. R.

glomerata, H. ( ) densely cespitose silky-villose; branches short closely foliate, leafets short, 3—5-cleft-palmate, divisions short-acuminate, lower ones sessile, cauline ones broad-petioled: flowers capitate, receptacle naked. A.

caespitosa, Bess. (L.) heads raceme-spiked, glomerate, globose; peduncles woolly at the apex; florets fine-hairy above; scales of the calyx fuscous, scarious, a little woolly on the back: leaves somewhat silky radical ones long-petioled, cauline ones cut-pinnate below and trifid above, divisions of the lower 3—5-gash-cleft, of those below undivided linear obtuse. A.

michauxiana, Bess. ( ) herbaceous heads in globose racemes, nodding: stem very simple: florets naked, lateral scales of the glabrous calyx scarious, shining: leaves white downy beneath, pinnatifid, divisions of the lower ones gash-toothed, those of the upper and floral ones lance-linear. R.

prescottiana, Bess. (2f. ♄.) heads in globose spikes, sub-erect, on very simple branches; florets naked; scales of the calyx scarious at the margin, shining: leaves whitish beneath, revolute at the margins, pin-

natifid or 3-cleft: divisions diverging; divisions and leaves linear-filiform at the summit. R.

chamissoniana, Bess. ( ) herbaceous; heads large, in globose racemes: stem very simple: florets chiefly peduncled at the base and hairy at the apex: leaves sub-glabrous, lower ones bi-pinnatifid and petioled, upper ones pinnatifid and sessile, divisions lance-linear, somewhat gash-toothed. R. A.

cana, W. (W. S. 2ſ.) hoary: leaves long, lance-linear, acute, nerved, whitish both sides; lower ones wedge-form, acutely 3-lobed: flowers " oval, in glomerules, axillary, sessile. R.

frigida, W. (W. Oc. 2ſ.) leaves hoary, pinnate; leafets 3-parted, linear, acute: florel ones pinnate, 3-parted: stem ascending: flowers globose, nodding.

Exotic.

pontica, (roman artemisia.) leaves downy beneath; cauline ones bipinnate; leafets linear: branches simple: flowers roundish, peduncled, nodding.

absinthium, (wormwood. 2ſ.) stem branching, panicled: leaves hoary; radical ones triply pinnatifid; divisions lanceolate, toothed, obtuse cauline ones 2-pinnatifid, or pinnatifid; divisions lanceolate, acutish; floral ones undivided, lanceolate. Naturalized in most mountain districts of New-England.

abrotanum, (southern-wood. 2ſ. & ♄.) stem straight: lower leaves bipinnate; upper ones capillary, pinnate: caylx pubescent, hemispheric.

Southern.

santonica, W. (W. S. 2ſ.) cauline leaves glabrous: branches undivded: spikes 1-sided, reflexed: flowers sub-sessile, 5-florets.

campestris, W. (field wormwood. W. S. 2ſ.) cauline leaves setaceous-pinnate, glabrous; radical ones pinnate, with 3-cleft hoary divisions: stem procumbent, branching, wand-like; flowers ovate, peduncled.

biennis, W. (W. ♂.) leaves glabrous; radical ones 3-parted-pinnate; lower cauline ones pinnatifid; upper ones linear, undivided: stem straight: flowers roundish, sub-sessile, erect.

serrata, N. (W. 2ſ.) leaves lanceolate, acuminate at both ends; margin serrate; upper side smooth, under white-downy: flowers panicled, erect: calyx small, cylindrical-ovate. 5 f.

columbiensis, N. (wild sage. W. 2ſ. ♄.) canescent: leaves lance-linear, acute, flat, hoary both sides, entire: flowers oblong, glomerate, axillary, sessile, all perfect. 10 f. Highly aromatic.

cernua, N. (1) (W. 2ſ.) stem much-branched: radical leaves 3-cleft; lower ones lacinated, hoary, pubescent when young; upper ones entire, lance-linear, smooth: racemes panicled, nodding: flowers pedicelled, sub-globose, inclined: calyx scarious. 8 f.

ludoviciana, N. (W. 2ſ.) stem simple: lower leaves sub-gash-pinnatifid; upper ones lanceolate, entire, hairy above, downy beneath: flowers ovate, erect, sessile: calyx pubescent: panicle simple. 2 f.

nuttalliana, Bess. (2ſ. ♄.) heads in a globose panicled raceme: outer scales of the calyx linear-oblong, margined: stem erect; panicle spreading: lower leaves glabrous, cauline ones undivided at the base and trifid, divisions and branches lanceolate acute. Red River.

(1) dracunculoides, L. dracunculus, Ph.

19—2. A'RUM. 3. 7.

dracontium, W. (green-dragon, W. J. 2f.) stemless: leaves pedate; leafets lanceolate-oblong, entire; spadix subulate, longer than the oblong-convolute spathe. River alluvion. 12—18 i. P. T. N. O. M.

atrorubens, W. (brown-dragon. M. 2f.) stemless: leaves ternate; leafets ovate, acuminate: spadix cylindrical: spathe sessile, ovate, acuminate, spreading horizontally above. Spathe dark-brown: disagreeable smell. P.

triphyllum, W. (indian turnip, wild turnip, wake robin. O. p. g. & w. M. 2f.) sub-caulescent: leaves ternate; leafets ovate, acuminate: spadix club-form: spathe ovate, acuminate, peduncled, with the lamina as long as the spadix. One variety. *virens*, has a green spathe; another, *atropurpureum*, has a dark-purple spathe; another, *album*, has a white spathe. 1—3 f. Wet.

Southern.

quinatum, N. (2f.) stemless: leaves quinate, lanceolate, acuminate.

walteri, (Ap.) stemless: leaves sagittate, triangular: angles divaricate, acute.

3—2. ARUN'DO. 4. 10.

canadensis, Mx. (reed-grass. Au. 2f.) panicle oblong, loose; glumes scabrous, pubescent, as long as the corol: corol awned on the back: hairs at the base equalling the valves: culm and leaves smooth. 3—4 f. P. V. W. O.

coarctata, T. (1) (Ju. 2f.) panicle somewhat spiked, conglomerate: calyx a little longer than the corol, carinate: corol longer than the hairs, awned a little below the tip. 3—5 f.

brevipilis, T. (S. 2f.) panicle diffuse, capillary: calyx unequal, shorter than the corol, bearded at the base: corol equal, awnless, hairy: hairs very short. 3—4 f.

Southern.

ovoides, Mx. (2f.) panicle sub-coarctate, incurved: calyx 2 flowered, glabrous, unequal: corol membranaceous, of the length of the calyx: hairs equalling the corol: leaves flat, scabrous.

18—12. ASARUM. 11. 23.

canadense. (2) (white snakeroot, wild ginger, false colt-foot. O. g-p. M. 2f.) leaves broad kidney-form, in pairs: calyx woolly, deeply 3-parted; divisions sub-lanceolate, reflected. Root aromatic and stimulant Bw. S.

virginicum, W. (M. 2f.) leaves solitary, round heart-form, glabrous, leathery: flowers sub-sessile: calyx glabrous above, short bell-form. Leaves speckled, smooth. S. P.

Arum. Formerly *aron*, supposed to be an ancient Egyptian word.

Arundo. Lat. *arundo*, a reed, from *areo*, to dry, because it soon becomes dry.

Asarum. Gr. *a*, without, and *sairo*, to adorn; not being used in ornamental chaplets by the ancients. Boerhaave.

(1) Agrostis glauca.

(2) carolinianum Wr. latifolium, Sy.

Southern.

arifolium, (. p. March. 2f.) leaves sub-hastate, cordate: calyx urceolate, border 3-cleft, converging, pubescent within.

18—5. ASCLE'PIAS. 30. 47.

1. *Leaves opposite.*

syriaca, (common milkweed, swallow wort. O. w-p. Ju. 2f.) stem very simple: leaves lanceolate-oblong, gradually acute, downy beneath: umbels sub-nodding, downy, 3 to 5 feet high: flowers in large close clusters, sweet scented—pollinia are fly-traps. 3—5 f. *S*

obtusifolia, Mx. (1) (W. p. J. 2f.) leaves clasping, oblong, round-obtuse, sometimes mucronate, waving: umbel terminal, long-peduncled, many-flowered, glabrous; the horn of the nectary exsert. Flowers large. 2—3 f. S. C. P. Y. Y.

phytolaccoides, Ph. (O. w-g. Ju. 2f.) stem erect, simple: leaves broad-ovate, acute, glabrous, paler beneath: nectaries truncate, internal margin 2-toothed: umbels lateral and terminal, long-peduncled, nodding. The horn of the nectary is very long and slender. 3 f. *S.*

periplocæfolia, N. (2) w-g. Ju. 2f.) leaves sub-sessile, somewhat distant, lance-ovate, narrowing upwards, very acute, smooth on both sides, margin rough: umbels mostly 2, naked, lateral: root round-tuberous: segments of the nectaries oblong-linear. 2. f. *S.* Y.

amœna, W. (W. p. Ju. 2f.) stem simple, a little hairy on two sides: leaves sub-sessile, oblong-oval, pubescent beneath: terminal umbels and nectaries erect, appendages exsert. Damp. *S.* C. Y. P.

purpurascens, W. (p. Ju. 2f.) stem simple: leaves ovate, villose beneath; umbels erect: horn of nectaries resupinate. Shades. 2 f. *S.* Y. *N.*

pulchra, W. (. r. Ju 2f.) leaves lanceolate, hairy under side: stem divided towards the top: umbels erect, in pairs. Flowers small: bark very showy.

variegata, W. (3) (W. w. Ju. 2f.) stem simple erect: leaves ovate, petioled, rugose naked: umbels sub-sessile, pedicelled, tomentose. The umbels dense. *S.* Y. P. N.

incarnata, W. (O. r. Ju. 2f.) stem erect, downy, branching above: leaves lanceolate, sub-downy both sides; umbels mostly double at their origin: the little horn of the nectary exsert. A variety *pulchra*, is more hairy. Var. *glabra*, almost glabrous, with two opposite longitudinal hairy lines on the stem: leaves glabrous, with rough margins, midrib glandular below. Perhaps a distinct species. Aikin. Var. *alba*, has white flowers. Damp. 3 f. *S.*

parviflora, (4) (w. Ju. 2f.) smoothish; stem weak, erect, simple: leaves petioled, oval-lanceolate, acute at both ends, membranaceous: umbels terminal, lax flowered; pedicels capillary. The bark is a good substitute for flax. 1—2 f. *S.*

Asclepias. *Asclepias* is the Greek name of the Aesculapius of the Latins, the god of medicine.

(1) purpurascens, Wr. (2) acuminata, Ph. cordata. Wr. laurifolia, Mx. (3) hybrida. Mx. (4) perennis, Wr. debilis, Mx.

quadrifolia, Ju. (O. w. p-w. M. 2ℓ.) stem erect, simple, smooth: leaves ovate, acute or acuminate, petioled: those in the middle of the stem are largest, and mostly in fours: umbels 2 to 4, terminal, lax, lax-flowered: pedicels filiform. Flowers small and sweet-scented. 18 i. 2 f. *S.* Shades. T.

2. *Leaves not opposite.*

verticillata, Mx. (dwarf milkweed. O. g-p. w. Ju. 2ℓ.) stem erect, very simple, marked with lines, and small pubescence: leaves very narrow-linear, straight, glabrous, whorled, scattered: horn of the nectary exsert. 2 f. *S.*

tuberosa, W. (butterfly-weed, colic-root, pleurisy-root, white-root. O. y. Ju. 2ℓ.) stem erectish, at the top spreading-branched, very rough-haired: leaves scattered, oblong-lanceolate, rough-haired: umbels terminal, sub-corymbed. A variety, *decumbens*, has a decumbent stem: leaves sub-linear, hirsute: another Var. *cordata*, has broad cordate leaves. Cathartic, diaphoretic, expectorant. Bw. 18 i—2 f. *S.*

pauperculu, Mx. (r. g. M. 2ℓ.) leaves linear, lanceolate, very long, remote, glabrous, with the margin pubescent: umbels few-flowered. 3—4 f. N. Jersey.

Southern.

connivens, Baldwin, (J. 2ℓ.) leaves oblong, oval, mucronate, slightly hairy, sessile; leaves of the nectary usually long, incurved, connivent at the summit. 1—2 f.

tomentosa, E. (2ℓ.) leaves oval, lanceolate, acute, tomentose: umbels sessile, with the horns exsert. 1—2 f.

amplexicaulis, Mx. (p. w. Ap. 2ℓ.) very glabrous: stems decumbent: leaves sessile, cordate, strongly veined, glaucus, appressed: umbels terminal and axillary. 1—2 f.

nivea, (Ju. 2ℓ.) leaves ovate, lanceolate, nearly glabrous: umbels erect, lateral, solitary: stem simple.

angustifolia, E. (g. w. M. 2ℓ.) leaves scattered, strap-shaped, slightly pubescent: umbels solitary terminal; horns included. 8—16 i. Charlaston, S. C.

cinerea, Wr. (J. 2ℓ.) leaves long, linear, opposite: umbels few, terminal, naked: horns short. 3 f.

speciosa, T. & J. (W.) slenderly tomentose: leaves heart-ovate, obtuse, opposite, short-petioled: umbels axillary, terminal and solitary: nectaries erect, lanceolate, straight, acute; horn short, incurved, compressed. Flowers very large.

12—3. Ascy'rum. 20. 68.

crux-andreæ, W. (1) (W. peter's wort. y. Ju. ♄.) many stems, diffuse: leaves sub-lanceolate-oblong, obtuse: corymb terminal: flowers subsessile, 2-styled: stem sub-terete, 2 feet high: petals narrow. Var. *angustifolium*, W. leaves oblong linear, crowded: flowers lateral and

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Ascyrum. Gr. *a*, without, and *skuros*, rough, on account of its sleekness.

(1) multicaule, Mx.

terminal, erect, 2-bracted near the base: styles 1 or 2, connivent; larger calyx leaves acute, oval-ovate. Sand. 8 i. S. P. Y.

hypericoides, W. (1) (y. Ju. ♄.) branching: branches 2-edged: leaves oblong, with 2 glands at the base: flowers terminal, solitary, with short pedicels, 3-styled. S. Y.

Southern.

amplexicaule, Mx. (Ap. y. 2ſ.) erect, sparingly branched with the branches compressed: leaves ovate, oblong, clasping; outer leaves of the calyx cordate: styles 3—4. 1—2 f.

pumilum. Mx. (March. y 2ſ.) stem small, simple, quadrangular: leaves oval, obtuse, fascicled: pedicels long, (half an inch,) reflexed: styles 1 or 2. Georgia.

pauciflorum, N. (M.) decumbent, diffuse, slender, many-stems: leaves near each other, oblong-linear, obtuse: flowers distant or few: pedicels reflexed, 2-bracted at the base: style 1. Woods of Georgia.

stans, Mx. (2) (W. ♄.) stem woody, winged, straight, branches straight: leaves oval-ovate, obtuse, glaucous: inner leaves of the calyx heart-orbicular: stamens united at the base: styles 2. K.

Asimina, PORCELIA.

6—1. ASPAR'AGUS. 11. 12.

Exotic.

officinalis, (asparagus. Ju. 2ſ.) stem herbaceous, unarmed, sub-erect, terete: leaves bristle-form, soft: stipules sub-solitary. Naturalized in the northern and southern districts. 4 f. C. P. B.

6—1. ASPHODE'LUS. 10. 16.

Exotic.

luteus, (asphodel, king's spear. 2ſ.) stem leafy: leaves 3-sided, striate.

ramosus, (2ſ.) stem branching, naked: leaves ensiform, carinate, smooth.

21—1. ASPI'DIUM. 55. 5.

1. *Fronds ternate.*

cicutarium, W. (3) (2ſ.) leafets pinnatifid; divisions acuminate, sinuate pinnatifid, entire; the lower and outer divisions of the sides elongated: fruit dots in rows. P.

Asparagus. Gr. *sparasso*, to tear, on account of the strong prickles, with which some of the species are armed.

Asphodelus. Gr. *a*, privative, *sphallo*, to excel, as none excelled it in beauty.

Aspidium. Gr. *aspis*, a small shield, from the shape and position of the involucres.

(1) stans, Mx. (2) Hypericum tetrapetalum, Lk. (3) Polypodium cicutarium, L. appendiculatum, Sw.

2. *Frond pinnate.*

acrostichoides, W. (1) (O. J to Au. 2f.) leafets lanceolate, sabre-form, acute, ciliate-serrate; on the upper side eared and dagger-pointed, on the lower side wedge-form at the base; the upper fruit bearing ones smaller: stipe and rachis chaffy: fruit-dots solitary, but at length becoming confluent.

lancastriense, M. (W. 2f.) frond pinnate; divisions nearly opposite; segments triangular-ovate, acutely serrate; stipe naked. Rather long and narrow. Fructification chiefly confined to the upper divisions, and in large blackish dots. Wet Meadows, West Cambridge, Bw.

3. *Fronds sub-pinnatifid; involucre* [indusium] *halved, kidney-form.*

noveboracense, W. (2) (Ju. 2f.) frond pinnate: leafets linear-lanceolate, pinnatifid, divisions oblong, obtusish, sub-entire, ciliate: fruit dots marginal; stipe smooth. Damp woods. N. W. Y. T. P. O. C.

cristatum, W. (W. 2f.) frond lanceolate-ovate, glabrous, pinnate; leafets sub-cordate-oblong, pinnatifid; divisions oblong, obtuse, tooth-serrate; stipe chaffy. A variety, *callipteris*, largish: leafets alternate, divisions oblong, unequally appressed-serrate: frond bearing the fruit, at the top. P. Y. O.

4. *Frond doubly or triply pinnate, involucre halved, kidney-form.*

aculeatum, W. (A. Au. 2f.) frond doubly pinnate: the lesser leafets ovate, sub-sabre-form, acute, dagger-serrate, the base of the upper ones truncate, of the lower ones short wedge-form; the upper ones bear the fruit: stipe and rachis chaffy. V.

marginale, W. (3) (O. Ju. 2f.) frond doubly-pinnate: lesser leafets oblong, obtuse, decurrent, crenate; more deeply crenate at the base; fruit-dots marginal: stipe chaffy. 2—3 f. S.

filix-mas, W. (W. Ju.) frond doubly-pinnate; lesser leafets oblong, obtuse-serrate; serratures beardless: fruit-dots of the middle-rib approximate: stipe and rachis chaffy. 2 or 3 feet high. A variety, *erosum*, lesser leafets erose-serrate, more remote. Rocky hills. S. W. N. P. Y.

intermedium, W. (J. 2f.) frond doubly-pinnate; lesser leafets linear, gash-pinnatifid; divisions at the apex sub-mucronate-serrate: stipe chaffy. Resembles the next species in many respects. P. W. T. O.

spinulosum, W. (W. Ju. 2f.) frond doubly-pinnate; lesser leafets oblong, decurrent, running together, gash-toothed; divisions mucronate-serrate: stipe chaffy: involucre glandular. Large. W. P. T.

dilatatum, W. (4) (Ju. 2f.) frond doubly-pinnate: lesser leafets oblong, distinct, gash-pinnatifid; divisions mucronate-serrate: stipe chaffy: involucre smooth. Leaves more compound, larger and broader than the filix-femina. S. P. O.

goldianum, T. (W. Ju.) frond broad-ovate, smooth, bipinnate; divisions lanceolate, pinnatifid; segments oblong, obtuse, with remote uncina-

(1) Auriculatum, Sh. Nephrodium acrostichoides, Mx. N. B. Linnæus placed the genus Aspidium under the genus Polypodium.

(2) Nephrodium thelypteroides.

(3) Nephrodium marginale, Mx.

(4) Nephrodium cristatum, Mx.

ted serratures; the lowest decurrent on the rachis; fruit-dot near the central nerve; stem chaffy. 2 f.

5. *Frond doubly or triply pinnate; involucre attached to one side of the fruit-dot.*

These come under the Athyrium of Roth.

thelypteris (snuff-box fern. W. Ju. 2[.) frond pinnate: leafets, lance-linear, pinnatifid, glabrous: divisions ovate, acute, entire: fruit-dots marginal contiguous, at length confluent. P. Y.

bulbiferum, (W. Ju. 2[.) frond bipinnate, lance-oblong: leafets opposite, oblong, obtuse, serrate; lower one pinnatifid: rachis bulb-bearing: fruit-dots roundish. P. Y. W. O.

asplenoides, (W. Ju. 2[.) frond bipinnate: leafets lance-linear, gash-serrate; serratures 2 or 3-toothed; terminal ones more acute: fruit-dots oblong, lunate. Tall. P. Y. O. C. B. New-England.

filix-femina, (Ju. 2[.) frond bipinnate: leafets lance-oblong, gash-serrate: serratures 2 or 3-toothed, acutish: fruit-dots oblong, straight. Tall. P.

angustum, (Ju. 2[.) frond bipinnate; leafets lanceolate, gash-serrate, sub-bidentate; lower one elongated above: fruit-dots oblong, sublunate. C. Y. W. P.

atomarium, frond bipinnate: leafets decurrent, ovate-oblong, pinnatifid; divisions toothed: fruit-dots scattered. About a span high. P.

tenue, (W. Ju. 2[.) bipinnate: leafets ovate, decurrent, toothed; fruit-dots solitary, near the teeth of the leafets. Small. Rocks. S. P. Y. T. O.

rufidulum, (J. 2[.) frond bipinnate: leafets chaff-bristly beneath, oblong, obtuse, crenate, coadunate; fruit-dots at length confluent. Small. In tufts on rocks. 4 to 8 i. C. Y. W. P. T.

21—1. ASPLE'NIUM. 55. 5.

rhizophyllum, W. (walking leaf. O. Ju. 2[.) frond lanceolate, stiped, sub-crenate, heart-form ears at the base: apex very long, linear-filiform, rooting. Var. *pinnatifidum*, leaves with the crenatures so deep as to become sub-pinnatifid. Barton. Woods. T.

augustifolium, W. (1) (swamp spleenwort. W. Ju. 2[.) frond pinnate: leaves alternate, upper ones sub-alternate, linear-lanceolate, sub-repand; base of the upper ones truncate, of the lower ones slightly rounded. 2—3 f. W. Y. P. O.

ebeneum, W. (2) (ebony spleenwort. O. Ju. 2[.) frond pinnate: leafets sessile, lanceolate, serrulate, cordate at the base, auricled above. 6—10 i. Rocks and dry places.

melanocaulon, W. (3) (Ju. 2[.) frond pinnate: leafets roundish, obtuse crenate, at the base wedge-form: stipe particoloured: stem black, polished. 3—5 i. B. C. W. Y. P. T. H. Rocks.

thelypteroides, W. (4) (silvery spleenwort. O. Ju. 2[.) frond pinnate: leafets sessile, lanceolate, acuminate, deeply pinnatifid; divisions oblong, obtuse, obtusely serrate: fruit-dots parallel, at length confluent. 2 f. W. T. P. O. C.

Asplenium. Gr. *a*, without, and *spleen*, the spleen, because it was used in curing the spleen.

(1) pycnocarpon, Sl. (2) trichomanoides, Mx. (3) trichomanes, Mx. (4) acrostichoides, Sw.

ruta-muraria, W. (dwarf spleenwort, W. Ju. 2f.) frond bipinnate at the base, simply pinnate at the apex, obtusely denticulate. Rocks. 1—2 i. W. Y. T. P.

montanum, W. (1) (W. Ju. 2f.) frond glabrous, bipinnate: leafets lanceolate, pinnatifid; divisions 2 or 3-toothed. 2 f. W. T.

17—2. As'TER. 49. 55.

1. *Leaves entire.*

hyssopifolius, W. (starflower. W.w. y. p. Au. to Oc.) leaves linear-lanceolate, 3-nerved, punctate, acute; margin scabrous: branchlets level-top-corymbed, compact: rays about 5-flowered: calyx imbricate, twice as short as the disk. 12 to 24 inches high. *S.* Y. C.

solidaginoides, W. (2) (W. w. Au. 2f.) leaves linear-lanceolate, obsolete-3-nerved, entire, obtuse; margin scabrous: branches level-top-corymbed: flowers sessile, aggregate: rays 5-flowered: calyx shorter than the disk, imbricate; scales oblong, obtuse, close-pressed, subreflexed at the apex. About 2 feet high: scales of the calyx white, with green tips: rays long and white. *S.*

ledifolius, Ph. (3) (wood aster. O. y. w. S. and Oc. 2f.) leaves linear-lanceolate, tapering to the base, without nerves, roughish, revolute margin; branches corymbed; branchlets filiform, 1-flowered, nakedish: calyx lax, imbricate, twice as short as the disk: leafets very acute: rays about 20-flowered. A variety, *uniflorus*, (4) has a very simple stem, bearing but one flower. About a foot high; sometimes the leaves have a small indenture on each side.

rigidus, W. (5) (p. y. Au. 2f.) leaves linear, mucronate, sub-carinate, rigid; margin rough-ciliate: the cauline leaves reflexed; the branch ones spreading, subulate; stem erect, somewhat branched above; branchlets 1-flowered, corymbed: calyx imbricate, twice as short as the disk: scales obtusish, carinate; rays about 10 flowered, reflexed. Hardly a foot high. *S.* N. H. C. T. Y.

linarifolius, W. (6) (W. p. y. Au. 2f.) leaves thick-set, nerveless, linear, mucronate, dotted, carinate, rough, stiff, those on the branches recurved: stem sub-decumbent: branches level-topped, 1-flowered: calyx imbricate, of the length of the disk. A little lower than the preceding species, and flowers smaller: stem rough, purplish. *S.* N.

graminifolius, Ph. (p. Au. 2f.) leaves narrow-linear, nerveless, punctate, glabrous, erect: terminal branchlets nakedish, 1-flowered: calyx lax, nearly equalling the disk. 6 i. T. N.

linifolius, W. (flax-leaved star-wort. W. S. 2f.) leaves linear, without nerves, dotted, rough, reflexed-spreading: branches level-top-corymbed, leafy: calyx imbricate, short: rays about equal to the disk. About 18 or 24 inches high. *S.* N. P.

subulatus, Mx. (sea aster. L. Au. 2f.) very glabrous, small-flowered: stem panicled: branches many-flowered: leaves linear-subulate: calyx cylindric; ligulate florets of the ray minute. Salt marshes. *S.* C. B.

foliolosus, A. (7) (Au. 2f.) leaves linear-lanceolate, tapering to both

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Aster. Gr. *astēr*, a star, from its radiated appearance.

(1) Adiantum nigrum, Mx. (2) Conyza linifolia, L. (3) nemoralis, A. (4) uniflorus, Mx. (5) linarifolius, in Bank's collection. (6) Inula linarifolia, N. (7) cordifolius, Mx.

ends, acuminate: stem pubescent, panicled, erect: branches few-flowered: calyx imbricate: scales linear, acute, close-pressed. Flowers small; hardly distinct from the next species. *S.* P.

tenuifolius, W. (W. w. Au. 2[.) leaves linear-lanceolate, tapering to both ends: margins hispid: stem glabrous, branching, erect; branchlets 1 flowered. calyx-imbricate: scales oblong, acute, lax. *S.* Y. C.

dumosus, W. (O. w. y. Au. 2[.) leaves linear, glabrous; those of the branchlets are the shortest: branches panicled: calyx-cylindric, closely imbricate. A variety, called *violaceus*, has pale violet rays, and a pubescent stem. Another variety, *albus*, has white rays, and a glabrous stem. Flowers small. *S.* Y. N.

ericoides, W. (W. w-y. Au. 2[.) leaves linear, very glabrous: those of the branchlets subulate, approximate; cauline ones elongated: calyx somewhat scurfy: leaves acute: stem glabrous. Flowers small. *S.*

multiflorus, W. (O. w-y. Au. to Nov. 2[.) leaves linear, smoothish: stem very branching, diffuse, pubescent; branchlets one way: calyx imbricate; scales oblong, scurfy, acute. Probably a variety of the last. *S.*

ciliatus, W. (2[.) leaves ciliate: cauline ones lance-linear, nerved; branch leaves very short, lanceolate, 3 nerved; stem branching, pubescent; branches panicled; calyx imbricate. with spatulate, squarrose scales. Perhaps a variety of the *multiflorus*.

paludosus, W. (W. y. Au. Nov. 2[.) leaves sessile, subulate, glabrous, with the margins scabrous: peduncles few, 1-flowered: involucre squarrose, the lower scales leaf-like. 12—18 i. *S.*

flexuosus, N. (1) (L. y. w-p. Au. 2[.) very glabrous: leaves subulate-linear, somewhat fleshy, sub-reflexed; stem slender, very branching; branches and branchlets spreading, bristle-form, 1-flowered: scales of the peduncles divaricate, subulate: calyx imbricate, scales close-pressed, acute. Resembles the last: flowers smaller. Salt marshes. *S.*

concolor, W. (W. r-b. Au. 2[.) leaves oblong-lanceolate, white pubescent both sides: stem very simple, erect, pubescent: raceme terminal: calyx imbricate, scales lanceolate, silky, close-pressed. About a foot high: ray and disk coloured alike. *S.* Y. P.

cornifolius, M. & W. (W. w. Au. 2[.) glabrous: leaves oblong-ovate, acuminate, short petioled; margin rough: stem glabrous: panicle few-flowered; branches 2-flowered; calyx sub-imbricate.

humilis, W. (2) (W. w. Au. 2[.) leaves sub-rhomboid, oval-lanceolate, acuminate at both ends, sub-petioled, glabrous; margin hispid: corymb divergingly dichotomous, nakedish, few-flowered: calyx lax-imbricate: rays 8-flowered. About a foot high: flowers large. *S.* P. T. O.

amygdalinus, Mx. (3) (O. w. S. 2[.) leaves lanceolate, tapering to the base, acuminate; margin rough: stem simple, level-top-corymbed at the top: calyx-lax-imbricate: scales lanceolate, obtuse. Rays large. *S.*

salicifolius, A. & W. (4) (r-b. Au. 2[.) leaves linear-lanceolate, subentire, glabrous: stem glabrous, panicled at the top: calyx lax-imbri-

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(1) sparsiflorus, Ph. (2) infirmus, Mx. divaricatus, W. cornifolius L. probably a variety of cornifolius. (3) umbellatus, A. Inula amygdalina, N. (4) praealtus, Lb.

cate: scales acute, spreading at their tips. 4—6 f. Flower middle-sized. Y. T. O. N.

æstivus, W. (b. Ju. to S. 2ℓ.) leaves lanceolate, sub-clasping, tapering to the apex: margin rough: stem branching from its base, erect, hispid; branchlets pilose: calyx scaly: scales lax, linear, acute, equal. About 2 feet high: the flowers resembling the last. Y. T.

nova-angliæ, (O. b-p. Au. 2ℓ.) leaves linear-lanceolate, pilose, clasping, auricled at the base: stem sub-simple, pilose, straight and stiff: flowers sub-sessile, terminal, crowded: scales of the calyx lax, colored, lanceolate, longer than the disk. In rich soil it grows 10 feet high: flowers large. S.

cyaneus, Hn. (1) (W. b-p. Au. 2ℓ.) leaves linear-lanceolate, clasping, smooth: stem wand-like-panicled, very glabrous; branches racemed: scales of the calyx lax, lanceolate, equalling the disk, inner ones colored at the apex. 3—4 f. Flowers many and large. This is the handsomest of all asters. S. T. N.

phlogifolius, W. (2) (W. w. p. Au. 2ℓ.) leaves lanceolate, heart-form, clasping, pubescent beneath, rough margin: stem very simple, pubescent: panicle terminal, lax, few-flowered: scales of the calyx lax, imbricate, lanceolate. From 18 to 24 inches high. Y. T.

2. *Leaves more or less cordate and ovate, serrate or toothed.*

undulatus, (3) (W. S. 2ℓ.) stem leaves heart-oblong, clasping, undulate, scabrous, toothed near the summit: branches of the panicle expanding, few-flowered: calyx sub-squarrose. Flowers large. 3 f. S. C. N.

sagittifolius, Wedem. (b. 2ℓ.) leaves lance-oblong, acuminate, sessile, serrate in the middle; radical ones oblong, heart-sagittate, serrate, petioled: stem glabrous, branching: scales of the calyx lax, imbricate, lanceolate. S.

diversifolius, Mx. (4) (y. p. S. 2ℓ.) leaves nearly entire, undulate, pubescent, sub-scabrous; lower ones cordate, ovate, with winged petioles: upper ones lance-oblong: panicle loose, the branches slender, racemose. 3 f. S. T. N.

paniculatus, A. (O. b-p. Au. to Nov. 2ℓ.) leaves ovate lanceolate, subserrate, petioled, glabrous: radical ones ovate-heart-form, serrate, rough, petioled; petioles naked: stem very branching, glabrous; branchlets pilose: calyx lax, sub-imbricate. 2—4 f. Flowers smallish, numerous. S.

cordifolius, L. (W. w. S. 2ℓ.) leaves heart-form, pilose beneath, sharp-serrate, petioled; petioles winged; stem panicled, smoothish: panicles divaricate: calyx lax, sub-imbricate. Flowers small. T. N.

corymbosus, A. (W. w. Au. 2ℓ.) leaves ovate, sharp-serrate, acuminate, smoothish; lower ones heart-form, petioled; petioles naked: stem glabrous, level-top-corymbed above: branches pilose: calyx oblong, imbricate: scales obtuse, very close-pressed. 12—14 i. Flowers rather large. T. N.

macrophyllus, A. (W. w-b. Au. 2ℓ.) leaves ovate, petioled, serrate,

(1) rubricaulis, Lh. spurius. W. nova-angliæ, A. (2) amplexicaulis, Mx. (3) diversifolius, Mx. patens, W. (4) undulatus, W. tardifolius, Wr.

rough; upper ones ovate-heart-form, sessile; lower ones heart-form, petioled; petioles sub-margined: stem branching, diffused; calyx cylindric, closely imbricate: scales oblong, acute. 1—2 f. Flowers largish. S. T. N.

adnatus, (p.) scabrous; small leaved: leaves heart-oblong, acute, entire, adnate above the middle of the stem; radical ones oblong: branches elongated, about 1-flowered. Alabama.

3. *Leaves lanceolate and ovate, lower ones serrate.*

amplexicaulis, W. (1) (O. b. S. 2f.) leaves ovate-oblong, acute, clasping, heart-form, serrate, glabrous: stem panicled, glabrous; branchlets 1-2-flowered: scales of the calyx lanceolate, closely imbricate. Flowers middle-sized.

prenanthoides, W. (W. b. 2f.) leaves clasping, spatulate-lanceolate, acuminate, serrate in the midlle, heart-form at the base: branchlets pilose: scales of the calyx lanceolate, scurfy. W. P. Y.

lævigatus, W. (O. r-p. S. to Nov. 2f.) leaves sub-clasping, broad-lanceolate, sub-serrate, smooth: stem very branching, glabrous; branchlets many-flowered: scales of the calyx lanceolate, lax, nearly equalling the disk. S. P. Y.

versicolor, W. (y-w. Au. 2f.) leaves sub-clasping, broad-lanceolate, subserrate, glabrous; radical ones serrate in the middle; stem very branching, glabrous; scales of the calyx, lanceolate, lax, shorter than the disk. Flowers many and large, elegant. S. P. Y.

mutabilis, W. (p-y. Au. to Oc. 2f.) leaves sub-clasping: upper ones lanceolate, acuminate, entire; lower ones lanceolate, at the base narrow, serrate; branchlets wand-like; calyx shorter than the disk, lax: stem glabrous. Y. N.

lævis, W. (W. b-p. S. to Nov. 2f.) leaves sub-clasping, remote, oblong, entire, shining; radical ones sub-serrate: branches simple, 1-flowered: calyx-imbricate, the leafets somewhat wedge-form, acute, thickened at the apex: stem glabrous, angular. Y. V.

concinnus, W. (b-p. S to Nov. 2f.) leaves lanceolate, somewhat clasping: lower ones sub-serrate, glabrous: stem simple, panicled at the top: calyx closely imbricate. P.

puniceus, (O. p. Au. to Nov. 2f.) leaves clasping, lanceolate, serrate, roughish: branches panicled: calyx lax, exceeding the disk, the leafets linear-lanceolate, sub-equal: stem hispid. A variety, *purpureus*, (2) seven feet: stem deep purple. Another variety, *rufuscens*, (3) tall; from green becoming reddish. From 3 to 10 feet high: flowers large. Damp. S. O.

floribundus, W. (2f.) leaves somewhat clasping, lanceolate; lower ones serrate: stem glabrous: branches corymbed; branchlets many-flowered, hairy: scales of the calyx lax, lanceolate, imbricate.

novi-belgii, (W. w-p. Au. 2f.) leaves sub-clasping, lanceolate, glabrous, rough at the margin; lower ones sub-serrate, branches sub-divided: calyx lax-imbricate, the leafets linear-lanceolate: stem terete, glabrous. Y. C. N.

bellidiflorus, W. (r. y. 2f.) leaves clasping, narrow-lanceolate, scabrous above, sub-serrate beneath: stem very branching: scales of the calyx lanceolate spreading. C.

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(1) pennsylvanicus, Lb. (2) amoenus, Lb. (3) hispidus, Lb.

spectabilis, W. (b. Au. 2f.) leaves lanceolate, roughish, sub-clasping; lower ones serrate in the middle: branches corymbed: leafets of the calyx lax, foliaceous, somewhat wedge-form, acutish, scurfy. About 2 feet high: flowers large. P.

serotinus, W. (b. S. 2f.) leaves oblong-lanceolate, acuminate, sessile, glabrous: margin rough; lower ones serrate: branches corymbed, glabrous; branchlets 1-flowered: scales of the calyx lanceolate, acuminate, spreading. About three feet: flowers large. Y.

tardiflorus, W. (b. Oc. 2f.) leaves sessile, serrate, glabrous, spatulate-lanceolate, tapering to the base, deflected at the margin and both sides: branches divaricate: calyx lax, the leafets lanceolate-linear, sub-equal, glabrous. Flowers not middle size. Y.

blandus, Ph. (p. Oc. 2f.) leaves somewhat clasping, oblong-lanceolate, acuminate, serrate, glabrous: stem branching in a pyramid-form: branches axillary, racemed, scarcely longer than the leaf: peduncles downy, not winged: calyx lax, sub-equal, shorter than the disk. Flowers largish. Canada.

acuminatus, Mx. (w S. 2f.) leaves broad-lanceolate, narrowed and entire at the base, unequally serrate above, long-acuminate; stem simple, flexuous, angular; panicle divaricately dichotomous; scales of the calyx loose, linear. Leaves large. A variety, called *elatior*, has a higher stem: panicles many-flowered and leafy. Another variety, *pumilus*, has a lower stem: corymb-few-flowered, naked, scarcely higher than the leaves. Commonly 12 inches high, and upwards: flowers middle size. Probably a variety of prenanthoides. *S.* P. W. N.

conyzoides, W. (1) (O. w. Ju. 2f.) leaves oblong, 3-nerved, narrow and acute at the base; upper ones sessile, sub-entire; lower ones petioled, serrate: stem simple, corymbed at the top: calyx cylindric, scurfy: rays 5, very short. About 20 inches high: flowers small.

undiflorus, N. (r. 2f.) stem simple, smooth: leaves sessile, lance-ovate, sub-acuminate, sharply-serrate; upper side scabrous: corymb simple, few-flowered: peduncles hairy or naked, 1-flowered: calyx-imbricate: scales ciliate.

radula, W. (w. S. 2f.) leaves lanceolate, serrate, acuminate, rugose, very rough: stem erect, angular, simple: corymb terminal: calyx imbricate: leafets lanceolate, obtusish, somewhat scurfy. Flowers mid-size. P.

strictus, Ph. (2) (y-r. S. 2f.) leaves sessile, narrow-lanceolate, serrate, rough: stem 1 or few-flowered above: scales of the calyx imbricate, close-pressed, oblong, acute, nearly equalling the disk. Four to seven inches high: flowers middle sized. P.

tradescanti, W. (3) (w-p. Au. 2f.) leaves lanceolate, serrate, sessile, glabrous: branches wand-like: calyx imbricate: stem terete, glabrous, 3 to 4 feet high: flowers small.

recurvatus, W. (4) (b. S. 2f.) leaves sessile, narrow-lanceolate, tapering to the base: lower ones serrate in the middle: stem branching, glabrous, recurvate: scales of the calyx lax, imbricate, linear-lanceolate, sub-equal. Resembles the last.

laxus, W. (w-y. S. to Nov. 2f.) leaves linear-lanceolate, acuminate;

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(1) marylandicus, Mx. Conyza asteroides, L. (2) biflorus, Mx. (3) vimineus, Lb. (4) sallcifolius, Lb.

rough margins; lower ones sub-serrate: stem sub-reflexed: branches very spreading: stem lax, panicled at the apex; calyx imbricate: leafets lanceolate, acute, reflexed at the apex. Y.

juncus, A. (r. Au. 2f.) leaves lanceolate-linear, sessile, glabrous: lower ones sub-serrate; those of the branchlets lanceolate: stem panicled, glabrous: branches wand-like: calyx imbricate. 2—6 f. S. Y.

dracunculoides, W. (1) (w. S. 2f.) leaves linear acuminate, entire; lower ones linear-lanceolate, sub-serrate; branches corymbed: calyx imbricate: stem smoothish. About 3 or 4 feet high. S. Y.

miser, W. (W. w. S. 2f.) leaves sessile, lanceolate, serrate, glabrous: calyx imbricate: leafets acute: florets of the disk and ray equal: stem sub-villose. Y. O. C. T. Canada.

divergens, A. (W. w-r. S. 2f.) leaves elliptic-lanceolate, serrate, glabrous: cauline ones linear-lanceolate, elongated: branches spreading: calyx imbricate: stem pubescent. 3 to 5 feet high: flowers small. S.

diffusus, A. (W. w. S. to Nov. 2f.) leaves elliptic-lanceolate, serrate, glabrous, all proportioned: branches spreading: calyx imbricate: stem pubescent. Flowers small. S. P. W. T. Y. C. B.

pendulus, W. (w. Oc. to Nov. 2f.) leaves elliptic-lanceolate, serrate, glabrous; those of the branchlets remotish: branches very divaricate, pendulous: stem pubescent. Resembles the preceding; but the disk turns brown. P. W.

eminens, W. (y. r. S. 2f.) leaves lance-linear, acuminate, scabrous at the margin: lower ones sub-serrate: stem panicled; branchlets 1-flowered: calyx lax-imbricate, with lanceolate leafets. T.

simplex, W. (w. y. 2f.) leaves lanceolate, acuminate, scabrous at the margin: cauline ones serrate at the apex; those of the branches entire; stem glabrous, panicled at the apex: calyx lax-imbricate, with linear-subulate leafets.

polyphyllus, W. (w. y. r. 2f.) leaves linear, mostly entire; radical ones oblong, sub-serrate: stem very branching, hairy: calyx lax-imbricate. C.

lanceolatus, W. (w. p. Au. 2f.) leaves lance-linear, sessile, mostly entire, glabrous; lower ones lanceolate, sub-serrate; stem branching, diffuse, very glabrous; calyx imbricate, with lanceolate somewhat spreading leafets. C.

fragilis, W. (w. 2f.) leaves linear, acuminate, entire; radical ones oblong, serrate: branches corymb-panicled: calyx imbricate, with close-pressed scales: stem very glabrous. 2 f.

collinsii, N. (W.) fine haired, rough; leaves uniform, wedge-oblong, serrate, tortuous-spreading: corymb compound: calyx cylindrical with close-pressed oblong scales: rays about 5-flowered. West Florida, Ware.

alatus, Aikin. (p. y. 2f.) calyx sub-ovate; scales linear acutish, reflex-spreading towards the apex: rays numerous, narrow: receptacle flat, sub-alveolate, naked, seeds oblong, minutely pubescent: egret pilose: hairs finely scabrous: leaves ovate, slenderly acuminate, tapering to the petiole, sharp serrate, scabrous above, glabrous and paler beneath: serratures sub-mucronate; upper leaves lanceolate, sub-entire: petioles winged, clasping: stem angled, flexuous, glabrous below, pubescent above: corymbed-panicle terminal, loose; peduncles bracted, a-

(1) artemisiflorus, Lb.

bout 1-flowered. Flowers large; rays lilac-purple, disk yellow, becoming brownish; stem sometimes decumbent; root fibrous: dark shady grounds, on borders of streams, &c. Height 12 to 20 inches.

shortii, Boot. (b. O. 2f.) flowers in a spreading panicle: leaves nearly glabrous above, scabrous and sparingly pilose beneath; radical leaves heart-oblong, pubescent when young, remotely and deeply crenate; cauline leaves mostly on long ciliate petioles, entire, cordate-lanceolate; floral leaves ovate and lanceolate, sessile minute and entire: stem branching above. Ohio and Ky. Riddell's catalogue.

oolentangiensis, Riddell. (b. O. 2f.) panicle terminal, elongated few-flowered: leaves acuminate, scabrous above, rough and pubescent beneath; radical leaves long petioled, ovate, obliquely cordate, remotely serrate; lower cauline leaves lanceolate, remotely serrate, on winged petioles; upper leaves lanceolate, half clasping, entire: stem simple strigose. Oolentangy river. O.

Exotic.

chinensis, (china aster. ☉.) leaves ovate, thickly toothed, petioled; cauline ones sessile, at the base wedge-form: floral ones lanceolate, entire; stem hispid: branches 1-flowered: calyx foliaceous. A variety has very full flowers, various-coloured, and very short rays. Cultivated.

Southern.

tortifolius, Mx. (Au. 2f.) leaves cuneate, obovate, acute, entire pubescent, twisted, expanding: flowers nearly sessile, aggregate: scales of the calyx linear-lanceolate, close-pressed. 2 f.

grandiflorus, W. (p. y. Oc. 2f.) leaves sub-clasping, linear, subulate, rigid reflexed, with the margin ciliate and hispid: stem hairy: branches 1-flowered calyx squarrose; the scales linear-lanceolate. 2—3 f.

exilis, E. (p. y. S. 2f.) very glabrous; stem slender, tall, somewhat branched: leaves very long, linear, subulate: head in racemes: scales of the calyx lance-linear, half as long as the ray. 4—5 f.

racemosus, E. (p. y. S. 2f.) leaves lance-linear, sub-pubescent beneath; margin scabrous; branches slender, long: heads nearly sessile, crowded towards the summit of the branches. 2 f.

squarrosus, W. (b. y. S. 2f.) leaves very numerous, sessile, ovate, acute, reflexed, rigid: margin hispid: stem branching, hairy: branches 1-flowered: scales of the involucre lanceolate, hairy, loose. 2 f.

reticulatus, Ph. (w. Au. 2f.) leaves sessile, oblong, lanceolate, acute at both ends, hoary and tomentose, 3-nerved, reticulately veined beneath: flowers racemed: scales of the calyx very acute. 3 f.

virgatus, E. (b-p. S. 2f.) leaves lance-linear, clasping, very glabrous; stem sub branched: branches virgate, erect: heads racemose: scales of the calyx very acute, slightly squarrose. 3—4 f.

carolinianus, Wr. (W. p. Oc. 2f.) stem shrubby, flexuous, much branched, pubescent: leaves sessile, oblong-lanceolate, tapering to each end; scales of the calyx lance-linear, very pubescent, sub-squarrose. 10—12 f.

surculosus, Mx. (p. y. Oc. 2f.) stem simple, pubesent towards the summit: leaves ob-lanceolate, acute, sub-serrate, scabrous above, upper ones small: flowers few, large: scales of the calyx oblong, ovate, reflexed, very pubescent. 12—18 i.

discoideus, E. (p. S. 2f.) stem erect, sub-villous: leaves spatulate-ovate, acute, serrate, hairy, pale beneath: scales of the calyx subulate, villous, loose, sub-squarrose: florets of the ray none. 2—3 f.

scaber, E. (p. y. S. 2f.) lower leaves petioled, oblong, cordate, acute, entire: upper ones sessile, clasping, lance-ovate, tapering to an acute point: all the leaves scabrous, undulate: panicle loose, long; the branches racemose. 3 f.

dichotomus, E. (w. p. y. Oc. 2f.) leaves sessile, oval, obtuse, pubescent: corymb sub-dichotomous: branches naked, long. 2 f.

obovatus, N. (w. y. M. 2f.) leaves sessile, oval, or obovate, obtuse, sub-rugose, very pubescent: corymb paniculate: scales of the calyx closely imbricate. 3. f.

canescens, Ph. (1) (W. p. Au. 2f.) white-pubescent: leaves linear: panicle corymbed, very branching, leafy: calyx imbricate, very acute, longer than the disk.

pauciflorus, N. (W. w. Au. 2f.) stem simple, 3 to 6-flowered: leaves linear, smooth, those of the stem subulate, and somewhat clasping: peduncles axillary and terminal, about 1-flowered: calyx and peduncle viscidly pubescent. On the margin of salt springs. 10 i.

montanus, N. (W. A. p-b.) leaves lance-linear, sessile, entire, silk-villous, obsoletely 3-nerved: stem erect, slender: branches 1-flowered: calyx hemispherical, with lance-linear, acute, erect leafets.

oblongifolius. N. (W. p. 2f.) stem and leaves finely scabrous: leaves mostly lance-oblong, somewhat clasping, not hairy: stem with subfastigiate few-flowered branches: calyx hemispherical, with squarrose, acute, oblong-linear leafets. 1 f.

sparsiflorus, Mx. ( ) sub-glabrous: leaves linear, entire, reflexed: stem slender, much branched: branches expanding, setaceous, 1-flowered: scales of the involucre close-pressed. L.

heterophyllus, W. (W. 2f.) leaves glabrous; cauline ones ovate, sub-cordate, acuminate, deeply serrate, entire at the apex: those of the branches oblong-ovate, sub-serrate; those of the branchlets lanceolate, minutely reflex spreading: stem panicled, glabrous: calyx closely imbricate.

adultcrinus, W. (W. y. p. 2f.) leaves clasping, lanceolate; lower ones sub-serrate, glabrous: those of the branches linear, squarrose: calyx squarrose, shorter than the disk: scales wedge-linear.

peregrinus, Ph. (W. p-b. 2f.) leaves sessile, remote, lance-oblong, gradually acute, glabrous; stem erect, sub-simple, glabrous, hirsute towards the top, and 1 to 3-flowered at the summit: scales of the calyx lance-linear, villous, very acute, lax, of the length of the disk: rays numerous.

graclis, N. (W. b. 2f.) leaves lance-oblong, remotely gash-serrate, acute, somewhat clasping, nearly smooth, with scabrous margins: stem minutely hairy, corymbed at the top: peduncles filiform, 2 and 3-flowered; lateral pedicels longer: calyx cylindric, squarrose-imbricated, with linear-oblong, sub-acute scales. Rays about 12, longer than the calyx. 1 f.

albus. N. (2) (W. w. Au. 2f) simple: flowers fastigiate-corymbed: peduncles (flower bearing branches) nearly naked, one-flowered: leaves lance-oblong, entire, scabrous, attenuated below. 1 f.

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(1) biennis, N. (2) Inula, N.

16—10. ASTRAG'ALUS. 32. 93.

secundus, Mx. (1) (one sided milk vetch. A. p. Ju. 2ℓ.) caulescent, procumbent: leafets ovate, pubescent: spikes peduncled: legumes one-way, straight, acuminate both ends, pendulous. Canada.

canadensis, W. (woolly milk vetch. W. y. Ju. 2ℓ.) caulescent, diffuse: leafets (21) glabrous both sides: legume sub-cylindric, mucronate. On the islands near Troy. 30 i. S. P. Y. T. R.

purshii, H. (y. J. 2ℓ.) very hirsute: stem short, diffused; stipule lanceolate, acuminate: leafets 6-8-pairs oblong; peduncles half as long as the leaves: flowers lax, head racemed, spreading: bracts linear-subulate, twice as long as the pedicels: calyx long membranaceous: wings tapering and equalling the banner: germ sub-sessile, linear, very hairy. R.

drummondii, H. (y. & w. 2ℓ.) erect: stem furrowed, stem: leaves and peduncles beneath with soft hairs; stipules ovate and very acuminate: leafets 13-15-paired, oblong, obtuse, tapering into the petiole: peduncles longer than the leaves: racemes long lax: bracts subulate, longer than the pedicels: calyx black-hirsute: legumes stiped, one-sided, cylindric, a little falcate. A.

carolinianus, W. (A. y. Ju. 2ℓ.) caulescent, erect: leafets (21) oblong, pubescent, retuse beneath: spikes peduncled: bracts lance-linear, about the length of the pedicels: peduncles, pedicels, and calyx pubescent: legumes ovate, tumid, beaked. 2—4 f. S. P. O.

alpinus, Ph. (2) (A. p. Ju. 2ℓ.) caulescent, procumbent: flowers pendulous, racemed: legumes acute at both ends, hairy. R. Canada.

pauciflorus, Hk. (W. p.) decumbent, hoary, pressed-pilose: stipules opposite, lower ones entire: leafets in 3 to 5 pairs, oblong, acute: peduncles a little shorter than the leaves, 2 to 4-flowered; flowers small in lax racemes; bracts pedicelled: teeth of the white-hairy calyx equalling the tube. Rocky Mt. Drummond.

adsurgens, Hk. (W.) elongated, prostrate or ascending, somewhat glabrous: leafets in 8 to 12 pairs, oblong: stipules ovate, acuminate, membranaceous: peduncles longer than the leaves: spikes oblong: flowers erect; banner one third longer than the wings: legumes straight, erect, somewhat 3-sided. Rocky Mt. and west of it.

succumbens, Doug. (W.) hirsute in all parts: stem procumbent, flexuose, ramose: stipules small, acuminate: leafets in 5 pairs, obovate: racemes capitate: legumes falcate. West of Rocky Mt. Flowers large.

diaphanus, Doug. (W.) prostrate, diffuse: leafets in 5 to 9 pairs, obovate: flowers capitate, lax: bracts minute, acuminate: legumes falcate, sub-reflexed, diaphanous. West of Rocky Mt. Flowers small.

lentiginosus, Doug. (W.) prostrate, sub glabrous: leafets 8-paired, obovate: legumes ovate, acuminate, membranaceous, curved and inflated at the base. Rocky Mt. and west of it.

inflexus, Doug. (W.) diffuse, prostrate, downy-villose: stem flexuose: leafets 9 or 10 paired, obtuse: legumes ovate, downy, curved. West of Rocky Mt.

glareosus, Doug. (W. b-p.) depressed, downy: stem short (5 inches):

Astragalus. Gr. *astragalos*. This was a name given by the Greeks to one of their leguminous plants, but it is not known to which.

(1) labradoricus, Hk. (2) Phaca, Hk.

leafets linear-oblong, in 6-pairs: calyx long-cylindric, with black hairs. West of Rocky Mt. Flowers large.

laxmanni, (1) (W. b. J. 2[.) stem diffuse and ascending, grooved: cauline bracts membranaceous, acuminate: leafets sub-pubescent, oblong, 6 to 8 pairs: peduncles axillary and terminal, much longer than the leaves, thick, grooved, in sub-oval crowded spikes: bracts acuminate: legumes oblong, pubescent when young. 1 f. R.

caryocarpus, H. (p. 2[.) stem many-edged, prostrate and ascending, sub-hirsute with close-pressed hairs: stipules distinct, ovate acute: leafets 9 to 12 paired, oval: peduncles shorter than the leaves: racemes capitate, lax: legumes inflated-nut-form, ridgy, mucronate, glabrous, many-seeded: calyx densely hirsute. A.

mollissimus, T. & J. (W. y-w. 2[.) almost stemless, erect, silk-downy: stipules not attached to the petioles, opposite to the leaves: leafets 11 to 14 pairs, ovate-oblong, mucronate: peduncles larger than the leaves: flowers in spikes, erect: legumes oblong, curved, glabrous.

leptophyllus, N. (Y. J. 2[.) erect glabrous: leafets linear, remote: racemes oblong: peduncles longer than the leaves: legumes glabrous. R.

mortoni, N. (y. 2[.) sub-glabrous: erect: leafets 6-8 pairs, oblong-obtuse: racemes dense-flowered nodding, peduncled, about equalling the leaves; germs villose. R.

glaber, Mx. (w. Ap.) caulescent, glabrous: leafets numerous, small, oval, slightly fringed: spikes 3 to 6-flowered, on long peduncles: pods distant, terete, incurved. 2 f.

obcordatus, E. (L. w.) glabrous: leafets small, 15 to 19 in number, obcordate: peduncles long, bearing 8 to 12 flowers at the top. Stem decumbent?

carnosus, N. (W. b-p. J.) stem caulescent, decumbent, hairy: leafets 8 to 10 paired, lance-oblong: stipules ovate: racemes axillary, about the length of the leaves: legumes large, pendulous, oval, fleshy, inflated and compressed, smooth. 2 f.

galegoides, N. (W. w.) stem sub-erect: leafets about 21, lance-oblong, sub-pubescent beneath: peduncles axillary, longer than the leaves: spike crowded: flowers pedicelled, one-sided: legumes stiped, pendulous, 3-sided, inflated, smooth: calyx hairy, with subulate segments: strong-scented. The *racemosus*, Ph. 2 f.

hypoglottis, (W. M.) stem procumbent: leafets oblong: spikes ovate, peduncled, longer than the leaves: legumes erect, ovate, channelled. Perhaps a northern plant. Red River.

vaginatus, Dc. (p. & w.) erect, pubescent: stipules united together and opposite: leafets lance-linear: peduncles longer than the leaves: flowers densely spiked, nodding: legumes linear, straight. A.

gracilis, N. (W. M. 2[.) pubescent: stem slender, erect: leaves sub-sessile: leafets oblong-linear, 13 to 21, remote: racemes peduncled, longer than the leaves: legume very short, nodding, oval-ovate, somewhat 3-sided, hairy, 1-celled: teeth of the calyx minute. 2 f. Nuttall says, it is the *tenellus* of Pursh, which is called Ervum multiflorum by the same author in one place, and Dalea parviflora in another.

micranthus, N. (W. b. M. ☉. 2[.) decumbent: leafets oval, emarginate,

(1) adsurgens? Hk.

glabrous: peduncles about 2-flowered, longer than the petioles: legumes falcate, 2-keeled, glabrous: seeds truncate. 7 i.

Exotic.

glaux, (milk-vetch. ☉.) caulescent, diffuse; the little heads peduncled, imbricate, ovate: flowers erect: legume ovate, callous, inflated.

depressus, (trailing vetch. 2ℓ) sub-caulescent, procumbent: leafets obovate: raceme shorter than the petiole: legume terete, lanceolate, reflexed.

3—2. ATHEROP'OGON. 4. 10.

spicatoides, M. (1) (hair-beard. W. S. 2ℓ.) spikes short, numerous, (20 to 40,) reflexed downwards: culm terete, glabrous, geniculate: leaves hairy at the base: sheaths hairy. 1 f. *S.* P. T.

oligostachyum, N. (W. 2ℓ.) spikes 2 or 3, sub-terminal, many-flowered: calyx and corol pilose; outer valve of the corol 3-awned, the 2 lateral awns shorter and arising near the middle of the valve—neutral valve 3-awned. 10 i. *S.*

Athyrium, ASPIDIUM.

12—13. ATRAG'ENE. 26. 61.

americana, Sims. (2) (false virgin-bower. b-p. M. 2ℓ.) stem climbing, 6-angled: leaves in fours, ternate, with climbing petioles: leafets glabrous, heart-ovate, acuminate: seeds caudate, with awns plumose? T. N.

columbiana, N. (b. Mar.) peduncles 1-flowered: leaves opposite, triple-gashed; leafets ovate-acute, obsoletely crenate: divisions of calyx ovate acuminate, with stamens about twice as long. R.

5—2. ATRE'MA. 45. 60.

americana, (3) (W.) stem furrowed: leaves many-cleft into linear divisions: umbels 5 to 8-rayed. Red River.

5—2. A'TRIPLEX. 12. 29.

halimus, W. (orache. ♄.) leaves alternate or opposite, oblong-sub-rhomboid, entire. Y.

hortensis, (garden orache. Ju. ☉.) stem erect, herbaceous: leaves triangular, toothed, of an uniform color: calyx of the fruit ovate, netted, entire. 3 f. Y. C.

laciniata, W. (L. J. ☉.) stem erect, herbaceous: leaves triangular, deep-toothed, white beneath: calyx of the fruit rhomboid, 3-nerved, denticulate. *S.* C.

Atheropogon. Gr. *athēr*, a bristle, and *pogon*, a beard, its awns being very scabrous.

Atragene. Gr. *Atkragene*, a name adopted by Theophrastus for our Clematis vitalba. De Candolle.

Atrema. Gr. *a*, without, and *trema*, a hole, or *atrema*, quietly, tranquilly.

Atriplex. Lat. *atriplex*, from its dark color.

(1) Chloris curtipendula, MR (2) pennsylvanica, M. Clematis, verticillaris, Dc. (3) Coriandrum americanum, N.

arenaria, N. (1) (sand arache. Ju. ☉.) stem herbaceous, spreading: leaves entire, oblong-ovate, sub-sessile, white-silvery beneath; upper ones acute or acuminate: flowers axillary, glomerate: calyx of the fertile flowers muricate, dentate, retuse. Stem reddish, angular, very branching; about a foot high. *S.* Y.

patula, (spreading orache. W. Ap. ☉.) stem herbaceous, spreading: leaves triangular-hastate, smooth above, irregularly toothed; upper ones entire: fruit-bearing calyx sub-muricate on the sides. Perhaps a variety of *laciniata*, T. *S.* C. B. N.

hastata, W. (Ju. ☉.) stem erect, herbaceous: leaves triangular-hastate, deeply toothed, uniform colored: calyx of the fruit sinuate-toothed; middle tooth elongated. Perhaps introduced.

Southern.

angustifolia, (L. J. ☉.) stem herbaceous, divaricate; lower leaves hastate, slightly toothed; upper ones lanceolate, entire: calyx of the fruit lance- hastate, entire.

canescens, N. (W. M.) dioecious, dusty-whitish: stem shrubby, diffuse: leaves oblong-linear, entire, obtuse, tapering towards the base; young leaves acute. 3 f. Calligonum canescens of Pursh.

argentea, N. (W. ☉.) stem herbaceous, erect: leaves deltoid, sub-cordate, sub-obtuse, entire, white-dusty and shining both sides: fruit somewhat peduncled, oval, compressed, obtuse, acutely toothed at the margin. 1 f.

3—1. ATRO'PA. 28. 38.

physaloides, W. (2) w-b. Ju. ☉.) stem very branching: calyx membranaceous, 5-angled, net-veined: berry fleshy, covered with the calyx: leaves sinuate-angled. *S.* T. O.

Exotic.

belladonna, (deadly nightshade. w-y. 2f.) stem herbaceous, brachiate: leaves ovate, entire. Berries black and poisonous.

3—2. AULAXAN'THUS. 4. 10.

Southern.

ciliatus, E. (S. 2f?) stem erect: leaves linear, ciliate: panicles slender, compact. Sand. 2 f.

rufus, E. (Au.) stem erect: leaves very glabrous: panicle large, slightly compressed: hairs on the calyx reddish yellow. Perhaps a variety of *ciliatus*, E.

Aulaxia, AULAXAN'THUS.

3—2. AVE'NA. (3) 4. 10.

praecox, (dwarf oats. J. ☉.) panicle in a dense raceme: florets as long as the calyx: awn exsert: leaves setaceous. Sand. 4 i. E. Ithaca.

Atropa. From *Atropos*, one of the three fates, from its deadly qualities.
Aulaxanthus. Gr. *aulax*, a furrow, and *anthos*, flower.
Avena. Lat. *aveo*, to covet, because cattle are so fond of it.
(1) patula? M. (2) Nicandra physaloides, P. (3) See Danthonia.

mollis, Ph. racemes somewhat in a compact spike: calyx 2-flowered; flowers awned and beardless—awns straight, of the length of the flowers: leaves and culm with soft pubescence.

striata, Ph. (A.) panicle compact, few-flowered: calyx 5-flowered; flowers longer than the calyx, almost beardless: valves outerly striate, with a long awn upon the back: seed naked.

Exotic.

sativa, (oats. J. ☉.) panicled: calyx 2-seeded: seeds smooth, one of them awned. First discovered in the island of Juan Fernandez. A variety is awnless, and has black seeds.

sterilis, (animated oats. Ju. ☉.) panicled: calyx about 5-flowered: florets hairy, the middle ones awnless. When dry, the heads are set in motion, if moistened, by the untwisting of the awns.

elatior, (J. 2[.) panicle sub-contracted, nodding: glume 2-flowered: florets perfect, sub-awnless, staminate awned: culm geniculate, glabrous: root creeping. Introduced.

13—2. AVICEN'NIA. 40 45.

Southern.

tomentosa, W. (mangle. ♄.) leaves oblong, obtuse, tomentose beneath. Flowers in sub-sessile clusters. 20 f.

5—1. AZA'LEA. 18. 50.

procumbens, W. (trailing honeysuckle. r. Ju. ♄.) leafy-flowered: branches diffuse, procumbent: leaves opposite, elliptic, glabrous: margin revolute: corol bell-form, glabrous: filaments enclosed, equal. Flowers small: resembles Ledum buxifolium: all the other species resemble the Rhododendron, to which Don annexed them. 3—4 i. N. White Mts.

calendulacea, Mx. (r. & y. Ap. ♄.) sub-naked-flowered: leaves oblong, pubescent both sides, and when full-grown become rough-haired: flowers abundant, large, not viscous: teeth of the calyx oblong: corol with a hirsute tube shorter than its divisions. A variety, *flammea*, has a flame-colored flower; another, *crocea*, has a saffron-colored flower. 4 f. P.

canescens, Mx. (A. N. r. J. ♄.) sub-naked-flowered: leaves obovate-oblong, pubescent on the upper side, and downy beneath; nerves not bristle-bearing: flowers not viscous: tube of the corol scarcely shorter than its divisions: teeth of the calyx very short, round-obtuse: stamens scarcely exsert. S. Catskill mountains.

arborescens, (r. ♄.) flowers leafy: leaves obovate, sub-obtuse, smooth both sides, glaucous beneath, ciliate on the margin; nerve almost smooth: flowers not viscous; tubes longer than the segments: calyx leafy, with oblong acute segments: filaments exsert. 15 f.

hispida, Ph. (A. w. r. Ju. ♄.) flowers leafy: branches straight, very hispid: leaves long-lanceolate, hispid above, smooth beneath, glaucous both sides, nerve bristly beneath: margin ciliate: flowers very

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Avicennia. In honor of Avicenna, an Arabic physician of repute.

Azalea. Gr. *azaleos*, dry, from its residence in dry and sandy situations, or the brittle dry nature of its wood.

viscous: tube scarcely longer than the segments: teeth of the calyx oblong, rounded: filament exsert. 12 f.

nudiflora, W. (1) (early honeysuckle, pinxter blomachee. O. r. M. ♄.) sub-naked-flowered: leaves lanceolate-oblong, or oval, smooth or pubescent, uniform-colored: nerves on the upper side downy, and beneath bristly; margin ciliate: flowers abundant, viscous: their tubes longer than their divisions: teeth of the calyx short, oval, sub-rounded: stamens very much exsert. A variety, *coccinea*, has scarlet flowers and lanceolate leaves; another *rutilans*, has deep-red flowers and minute calyx; another, *carnea*, has pale-red flowers, with red bases and leafy calyx; another, *alba*, has white flowers, with a middling calyx; another, *papilionacea*, has red flowers, with the lower divisions white, calyx leafy; another, *partita*, has flesh-colored flowers, 5-parted to the base; another, *polyandria*, has rose-colored flowers, with from 10 to 20 stamens. Woods. 2—6 f.

nitida, (swamp honey suckle, swamp pink. w. J. ♄.) leafy-flowered: branches smoothish: leaves few, oblanceolate, sub-mucronate, leathery, glabrous both sides, and the upper side shining: nerve bristle-bearing-beneath: margin revolute-ciliate: flowers viscous; tube a little longer than the divisions: calyx very short: filaments exsert. Leaves dark-green. Swamps. C. Y.

viscosa, W. (white honeysuckle. W. w. J. ♄.) leafy-flowered: branches hispid: leaves oblong-obovate, acute, both sides glabrous and one-colored: nerve bristle-bearing, margin ciliate: flowers viscous; tube twice as long as the divisions: teeth of the calyx very short, rounded: filaments scarcely longer than the corol. Flowers very sweet-scented. 5 f. B. N.

glauca, Lk. (fragrant honey-suckle. w. J. ♄.) leafy-flowered: branchlets hispid; leaves oblanceolate, acute, both sides glabrous, and glaucous beneath; nerve bristle-bearing, margin ciliate: flowers very viscous; tube of the corol twice as long as its divisions: calyx very short: filaments about equal to the divisions of the corol. Rather lower than the other species: flowers abundant. Perhaps a variety of *viscosa*. S. P.

Southern.

bicolor, Ph. (r. w. M. ♄.) naked flowered: leaves obovate, covered on both sides with fine whitish hairs; the nerve not bristly: flowers small, not viscid; the tube scarcely longer than the segments of the corol: calyx very short; one of its segments narrow, and 4-times longer than the rest: filaments longer than the tube; smaller branches hairy and hispid. 2—8 f.

21—1. AZOL'LA. 55. 5.

caroliniana, (W. ⊕.) leaves distichous, imbricate; ovate-oblong, obtuse, spreading. Floating leaves, reddish beneath. Lake Ontario. Cayuga Marsh.

Azolla. Gr. *azo*, to make dry, *ollo*, *(ollumi,)* to kill; in allusion to its withering suddenly, when removed from a marsh, &c.

(1) periclymenoides, Mx.

B.

17—2. Bac'charis. 49. 55.

halimifolia, Mx. (groundsel tree. w. S. ♄.) leaves obovate, gash-toothed above: panicle compound, leafy: fascicles peduncled. The whole shrub covered with white powder. Sea-coast, and river alluvion. 6—12 f. *S.* Y.

Southern.

angustifolia, Mx. (L. S.) very glabrous: leaves linear, very entire: panicle compound, many-flowered. 8—10 f.

sessiliflora, Mx. (S.) leaves smooth, cuneate obovate, toothed near the summit: heads axillary, sessile, scattered: scales of the calyx rufous at the tips. 3—5 f.

17—3. Balduin'a. 49. 55.

Southern.

uniflora, N. (y. Ju. 2f.) stem 1-flowered, simple, pubescent: leaves narrow, obovate, entire: egret as long as the seed. 2 f.

multiflora, N. (y. S. 2f?) stem branching, many-flowered, glabrous: leaves linear; leaves of the involucre acuminate: egret short, cup-form. 30 i. Elliott considers these two species as belonging to different genera—the latter he proposes to call Actinospermum.

13—1. Ballo'ta. 42. 42.

Exotic.

nigra, (false motherwort, false hoar-hound. 2f.) naturalized, and grows wild about New-Haven,) leaves heart-form, undivided, serrate: leaflets of the calyx acuminate. Ives. C.

Balsamorhiza, Espeletia.

17—4. Baltimo'ra. 49. 55.

Southern.

recta, W. (y. Ju. ☉.) scabrous: stem dichotomous: leaves opposite, ovate, acuminate, serrate, petioled. It is doubtful whether this grows north of the West India Islands.

10—1. Bapti'sia. V. (1) 32. 93.

tinctoria, (wild indigo. O. y. Ju. 2f.) very glabrous and branching: leaves ternate, sub-sessile: leafets wedge-obovate, round obtuse, (be-

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Baccharis. From Bacchus, to whom the original plant (probably by Dioscorides,) was dedicated.

Balduina. In honor of Dr. Wm. Baldwin, of Savannah, Geo.

Ballota. Gr. *ballō*, to send forth, and *ous*, *(ōtos,)* the ear, its sprouts resembling two ears.

Baltimora. In honor of Lord Baltimore, the settler of Maryland.

Baptisia. Gr. *baptō*, to dye, as it is often used as a color.

(1) Podalyria, W. Sophora, Wr.

coming black in drying:) stipules obsolete, oblong, acute, much shorter than the petioles: racemes terminal: legumes ovate, long-stiped. 2—3 f. *S.*

cærulea, Mx. (1) (spiked indigo weed. W. b. Ju. 2ſ.) glabrous: leaves ternate, short-petioled; leafets oblong-wedge form, obtuse: stipules lanceolate, acute, twice as long as the petioles: racemes spiked, elongated; legumes acuminate. *S.* C. H. Canandaigua.

alba, W. (W. w. J. 2ſ.) branches spreading: leaves ternate, petioled: leafets lanceolate, wedge-form at the base, obtuse, mucronate, glabrous: stipules subulate, shorter than the petioles: racemes terminal. 2 f. D.

Southern.

perfoliata, M. (y. Ju. 2ſ.) very glabrous: leaves perfoliate, oval, entire, glaucous: flowers axillary, solitary, legumes sub-globose inflated.

lanceolata, Wr. (y. Ap. 2ſ.) pubescent: leaves ternate, cuneate, lanceolate obtuse; flowers axillary, solitary; the terminal ones racemed. 1—2 f. The *uniflora* of Ph. Florida.

villosa, Wr. (y-w. J. 2ſ.) leaves ternate, lanceolate, hairy: stem and calyx villous: stipules linear: racemes terminal.

mollis, Mx. (2ſ.) stem, leaves and calyxes minutely hairy: leaves ternate; leafets lance-rhomboid: stipules leafy, lanceolate: racemes in terminal spikes; teeth of the calyx acute.

bracteata, M. (W. w. Ap.) pubescent: branches spreading; leaves ternate, petioled; leafets lanceolate; racemes axillary, reclined: bracts large, broad-subulate, permanent. 2 f. The *leucophaea*? N.

simplicifolia, Croom. (y. J. 2ſ.) leaves simple, rhomb-ovate, obtuse, glabrous, without stipules: stem angular; legumes pedicelled. Florida.

sphaerocarpus, N. (W. y. 2ſ.) very glabrous: leaves sessile; leafets lance-oblong and ovate, obtuse: stipules subulate, minute: legumes very short, sub-globose; spikes long, terminal. Arkansas.

microphylla, N. (y. 2ſ.) leaves simple, sessile, round-cuneate; upper ones clasping: stipules roundish: flowers axillary, solitary: legumes short, sub-globose. Florida.

14—2. BARBARE'A. Br. 39. 63.

vulgaris, (2) (water radish, water rocket. O. y. M. 2ſ.) lower leaves lyrate-pinnatifid, with the terminal lobe roundish; upper leaves obovate, toothed. Banks of rivers. Wet lands.

precox, Br. (3) (winter cress. 2ſ.) lower leaves lyrate, with a terminal ovate-lobe, upper ones deeply pinnatifid, with linear oblong terminal-lobes. Canada. C.

11—1. BARTO'NIA. 15. 88.

laevicaulis, H. (W. J. w.) petals 5: stamens 5, petalloid; bracts 0: stem very smooth: seeds winged. R.

Barbarea. So named from its being called the herb of St. Barbary.

Bartonia. In honor of Dr. B. S. Barton of Philadelphia.

(1) australis, W. (2) Erysimum barbarea, L. (3) Erysimum, precox, S.

parviflora, Dg. ( ) petals 5: stamens 5—7, petaloid: bracts 0: stem scabrous: seeds winged. R.

albicaulis, Dg. (y. ☉.) petals 5, obovate, small: stamens petaloid, or none: bracts none: stem very smooth, shining, white. R.

Bartonia, as changed to CENTAURELLA.

13—2. BART'SIA. 40. 36.

pallida, (white painted cup, A. w-y. Au. 2ℓ.) leaves alternate, linear, undivided: upper ones lanceolate; floral ones sub-oval, sub-toothed at the summit; all are 3-nerved: teeth of the calyx acute. White-hills.

acuminata, Ph. (W. 2ℓ.) leaves alternate, long-linear; floral leaves ovate, long-acuminate, 3-nerved, all undivided: flowers shorter than the bracts: teeth of the calyx acute.

tenuifolia, Ph. (W. y. Ju. 2ℓ.) very hirsute; leaves alternate, linear, gash-pinnatifid; divisions filiform: bracts (yellow.) membranaceous, oblong, obtuse, tooth-hastate at the base on each side, longer than the flowers: calyx short, hairy, with subulate teeth. 1 f.

alpina, W. (p. Ju. 2ℓ.) leaves opposite, ovate, sub-cordate, obtuse-serrate, rugose: anthers hirsute. 6 i.

gymnandra, W. (W. b. 2ℓ.) leaves sub-opposite, ovate, crenate; a pair of radical ones petioled; spike oblong; the whorled bracts compact. 7 i.

Note. The *coccinea* is removed to Nuttall's new genus, Euchroma.

5—1. BAT'SCHIA. 41. 43.

canescens, (puccoon, false bugloss. W. y. Ju. 2ℓ.) whitish-villose: leaves all oblong: calyx very short: divisions of the corol entire. A red substance covering the root is the puccoon paint of the Indians. *S.* P. H. N.

gmelini, Mx. (W. r-y. Ap. 2ℓ.) hirsute; floral leaves ovate: segments of calyx long sub-lanceolate. Dry woods. 10—16 i. *S.*

Southern.

longiflora, N. (W. y. Ju. 2ℓ.) hirsute, erect; leaves approximating, long-linear: margin reflexed: fascicles fastigiate; tube of the corol sub-pentangular; border flat, with fringed crenatures.

decumbens, N. (W.) hirsute: stem decumbent: segments of the calyx and leaves linear: flowers scattered: lobes of the corol fringed-crenate, shorter than the tube.

3—2. BECKMAN'NIA. 4. 10.

Southern.

cruciformis, Ju. (W. Ju.) panicle 2-rowed, 1-sided, linear: calyx 1 or 2-flowered, with scarious margins: stigma hirsute.

Bartsia. In honor of Dr. Bartsch, a friend of Linneus.

Batschia. In honor of J. G. Batsch, of Jena, author of several valuable botanical books.

Beckmannia. In honor of Prof. Beckmann, a German botanist.

Befaria, BEJARIA.

12—1. BEJA'RIA. 18. 50.

Southern.

racemosa, Ph. (w-r. J. ♄.) leaves lance-ovate, glabrous: flowers racemed-panicled, terminal: stem hispid. 3 f. Sand.

17—2. BEL'LIS. 49. 55.

Exotic.

perennis, (daisy. w. & p. Ap. 2[·) leaves obovate, crenate: scape naked, 1-flowered. Grows wild in cultivated fields in Pittsfield, Mass.

Southern.

integrifolia, Mx. (W.) caulescent: spread-branched, leaves entire; lower ones obovate; upper ones lanceolate: leafets of the calyx very acute and acuminated with a hair.

6—1. BER'BERIS. 54. 78.

vulgaris, (1) (barberry. y. M. ♄.) branches punctate: prickles mostly in threes: leaves obovate, remotely serrate: flowers racemed. N. Y. C. P. B. Canada.

pinnata, (W. y. Ap. ♄.) sarmentose, unarmed: leaves pinnate; leafets mostly in three pairs, oblong, repand-toothed, veiny: petals 2-toothed. The aquifolium. Ph. R.

nervosa, Ph. (W. y. Ap. ♄.) sarmentose, unarmed: leaves pinnate; leafets 6-paired, ovate-oblong, repand-serrate, somewhat 5-nerved: petals entire. R.

aquifolia, H. K. (2) (W.) leaves in 2 and 3 pairs, lower pair distant from the base of the petiole; leafets ovate, near each other, spine-toothed, cordate at the base, 1-nerved; racemes erect, dense; filaments 2-toothed.

Berchemia, RHAMNUS.

Bernhardia, PSILOTUM.

5—2. BE'TA. 12. 29.

Exotic.

vulgaris, (beet. g. Au. ♂.) flowers heaped together: lower leaves ovate.

cicla, (white-beet, scarcity. ♂.) flowers in threes: radical leaves petioled, cauline ones sessile; lateral spikes very long.

Bejaria. In honor of Bejar, a Spanish botanist.

Bellis. Lat. *bellus*, handsome, from its appearance.

Berberis. Obscure: *Berberis*, according to Golius, is the Arabic name of this plant.

Beta. Gr. letter *Beta*, which its seed resembles, or from Celt. *bett*, meaning red.

(1) canadensis, N. (2) mahonia, N.

19—12. Be'tula. 50. 99.

populifolia, W. (1) (white birch, poplar birch. Ju. ♄.) leaves deltoid, long-acuminate, unequally serrate, very glabrous: scales of the strobile with rounded lateral lobes: petioles glabrous. 30—40 f. T. V. Y. N. C.

excelsa, (2) (tall birch, yellow birch. O. J. ♄.) leaves ovate, acute, serrate: petioles pubescent, shorter than the peduncle? scales of the strobile with rounded lateral lobes. 70—80 f.

rubra, Mx. (3) (red birch. M. ♄.) leaves rhombic-ovate, doubly-serrate, acute, pubescent beneath, base entire: pistillate ament ovate: scales villose: divisions linear, equal. 70 f. Excellent cabinet timber. *S.*

papyracea, W. (4) (paper birch, canoe birch. ♄.) leaves ovate, acuminate, doubly-serrate: veins hirsute beneath; petiole glabrous: pistillate ament peduncled, nodding: scales with lateral, short, sub-orbicular lobes. Has a paper-like bark, of which the Indians construct canoes. Y. W. T. N.

lenta, W. (5) (spicy birch, cherry birch, black birch. O. M. ♄.) leaves heart-ovate, sharp-serrate, acuminate: nerves and petioles pilose beneath: scales of the strobile glabrous, with obtuse equal lobes having elevated veins. Large tree, whose wood is much like mahogany; very sweet-scented. 80 f. *S.*

glandulosa, (scrub birch. M. ♄.) branches glandular-dotted, glabrous: leaves obovate, serrate, at the base entire, glabrous, sub-sessile: pistillate ament oblong, scales half-3-cleft: seed orbicular, with a narrow margin. 2—8 f. Very abundant in the marshes about Stockbridge, Mass. It seems to be intermediate between Betula and Alnus. Y. P. T.

nana, (dwarf birch. M. ♄.) very small and glabrous: leaves small, wedge-orbiculate, gash-crenate, net-veined beneath: scales of the ament deeply 3-parted, divisions oblong, seeds oblong, nearly wingless. Swamps. Canada. N.

pumila, W. (6) (dwarf birch. O. J. ♄.) branches pubescent, dotted: leaves orbicular-obovate, petioled, dense-pubescent beneath: pistillate ament cylindric. 2—3 f. Y. P. C. N.

17—3. Bi'dens. 49. 55.

cernua, (water beggar-ticks. O. y. Au. ☉.) flowers sub-rayed, drooping: outer calyx longer than the flower; leaves lanceolate, sub-connate, toothed. One variety, *minima*, has sessile leaves and erect flowers and seeds; another variety, *coreopsis*, has serrate, opposite, clasping leaves.

chrysanthemoides, W. (7) (daisy beggar-ticks. O. y. Au. ☉.) flowers rayed, drooping, rays erect, longer than the sub-equal calyx: leaves oblong, tapering to both ends, toothed, connate. Flowers large: 2, 3 or 4 awns to a seed. Wet. *S.*

Betula. Beta is the Celtic word for the Birch, betula, Lat.

Bidens. Lat. *bis*, two, and *dens*, tooth, from the seeds being surmounted with two teeth.

(1) acuminata, Eh. (2) lutea; Mx. (3) lanulosa, Mx. nigra, L. (4) papyrifera, Mx. (5) nigra, Wm. carpinifolia, Eh. (6) nana, Kalm, not W. (7) Coreopsis perfoliata, Wr.

tripartita, (three-fingered beggar-ticks. Au. ☉.) flowers discoid; outer calyx longer than the flower: seeds with 3 awns: leaves 3-cleft. 3 f. Swamps. Bigelow finds this species near Boston; probably we have labelled it by some other name.

frondosa, (burr marygold, cuckold. O. y. Ju. ☉.) flowers discoid: outer calyx six times as long as the flower: leafets ciliate at the base: lower leaves pinnate: upper ones ternate, lanceolate, serrate. S. T.

connata, W. (1) (y. Ju. ☉.) flowers discoid: outer calyx thrice as long as the flower: cauline leaves ternate, lateral leafets connate; floral ones oblong lanceolate. S. P. Y. C. N.

pilosa, W. (Ju. ☉.) flowers discoid: outer calyx of the length of the inner: lower leaves pinnate: upper ones ternate: leafets oblong, a terminal lanceolate one twice as long as the rest. S. P.

bipinnata, (hemlock beggar-ticks. y. Ju. ☉.) flowers sub-rayed: outer calyx of the length of the inner; leaves doubly-pinnate; leafets lanceolate, pinnatifid. S. Y. P. C. H. N.

beckii, T. (water marygold. Au. y. 2f.) submersed leaves capillary, divided into many parts, dichotomous: flowers erect, terminal, solitary. Flowers radiate. A new species discovered in a pond near Schenectady, N. Y. by Dr. Lewis C. Beck, and named by Dr. John Torrey, in honor of the zealous and persevering discoverer. Sodus Bay.

gracilis, T. & J. (W. y.? 2f.) very glabrous: leaves pinnate-5-cleft: divisions narrow-linear, entire: stem sub-ramous, erect: flowers terminal, solitary, long-peduncled, discoid: bracts half as long as the involucre. S. 2 f.

petiolata, N. (☉.) glabrous; leaves simple, petioled, narrow: lanceolate, acuminate at both ends, serrate: flowers discoid: outer calyx middling.

13—2. BIGNO'NIA. 40. 40.

radicans, (trumpet flower. O. r. & y. Ju. ♄.) leaves pinnate: leafets ovate, toothed, acuminate: corymb terminal: tube of the corol thrice as long as the calyx; stem rooting. Most beautiful climbing shrub. One variety, *flammea*, has yellow-scarlet flowers; another variety, *coccinea*, has bright scarlet flowers. Cultivated. S. P. H.

Southern.

crucig'era, W. (y-r. J. ♄.) leaves conjugate, cirrose; lower ones ternate: leafets heart-ovate, acuminate: racemes axillary: stem muricate. K.

capreolata, W. (r. March. ♄.) leaves conjugate, bearing tendrils, the lower ternate: leafets ternate, cordate, acuminate: racemes axillary: stem roughened. A vine. Woods. K. Florida. Probably same as *crucigera*. H. H. Eaton.

Bignonia, CATALPA.

21—1. BLECH'NUM. 55. 5.

borealis, (roman fern. Au. 2f.) barren frond pinnatifid; divisions lance-

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Bignonia. In honor of Abbe Bignon, a friend of Tournefort.

Blechnum. Gr. *Blechnon*, one of the Greek names of the fern.

(1) chrysanthemoides, Mx.

olate, obtusish, parallel: fertile frond pinnate: leafets linear, acuminate.

serrulatum, (2f.) frond pinnate: leafets lanceolate, tapering to both ends, at the base decurrent, sharp-serrate. I do not know that we have a Blechnum in the northern district.

Southern.

virginicum, (virginian blechnum.) frond pinnate; leafets many-cleft, lanceolate, sessile, semipinnatifid, acute, divisions obtuse, quite entire. Of the height of the Polypodium filix-mas. Virginia and Carolina.

radicans, (root-leaved blechnum.) frond bipinnate; leafets lanceolate, crenulate, sessile, slightly concurrent at the base, serrate with a very fine callus, acuminate, more veined beneath: lines of fructification next the nerve, interrupted. Virginia.

17—2. BLEPH'ARIPAP'PUS. 49. 55.

glandulosus, H.( ) hispid: leaves broad-linear, upper ones and the involucres with black pediceled glands: chaffs of the egret elongated, having long hairs at the base: bony seeds of the ray naked, bald. 6—8 i. R.

scaber, H. ( ) leaves narrow-linear, scabrous: involucres sub-pubescent, without pedicelled glands: all the seeds bony and villose; chaffs of the egret shortish, chiefly fringed-ciliate above. R.

Blefilia, MONARDA.

18—1. BLET'IA. (1) 7. 21.

Southern.

aphylla, N. (y. r. Au. 2f.) leafless: scape terete, scaly, tapering near the summit; the scales ovate, alternate: lip without a spur. 18 i.

verecunda, N. (Ju. 4f.) radical leaves broad-lanceolate, plaited, nerved: scape many-flowered: inner petals converging: lip inflated, with an emarginate border, crisped, furrowed.

1—2. BLI'TUM. 12. 29.

capitatum, (strawberry blite, Indian strawberry. W. r. J. ☺.) heads in a terminal spike, not intermixed with leaves: leaves triangular-hastate, toothed. 15 i. S. T. B. N.

virgatum, (slender blite. W. r. J. ☺.) lateral heads scattered, top ones leafy: leaves triangular-toothed. P. O.

maritimum, N. (sea blite. L. g. S. 2(?) calyx membranaceous: clusters axillary, spiked, naked: leaves lanceolate, tapering to each end, gash-toothed. Salt marshes. 2—3 f. Very branching. Y.

Blepharipappus. Gr. *blepharis*, eyelashes, *pappus*, down; the egret resembling the eye-lashes.

Bletia. In honor of Louis Blet, a Spanish apothecary.

Blitum Gr. *bliton*, insipid, and Celt. *blith*, meaning the same. Relating to the fruit.

(1) Cymbidium.

Southern.

chenopodioides, N. (W. ☉.) leaves sub-hastate-triangular, sub-dentate, tapering to both ends: glomerules axillary, leafy: seeds distinct, punctate, not berried. Dry.

17—2. BOEBE'RA. 49. 55.

Southern.

chrysanthemoides, W. (W. y. Au. ☉.) stem panicled: leaves opposite, sub-pinnate, glabrous, acute.

19—4. BŒHME'RIA. 53. 98.

cylindrica, W. (1) (false nettle. O. g. Ju. 2ſ.) leaves opposite, ovate-oblong, acuminate, toothed, glabrous: flowers sub-diœcious: staminate spikes glomerate, interrupted; pistillate spikes cylindric: stem herbaceous. Damp. 18 i. *S.*

lateriflora, (Ju. 2ſ.) leaves alternate, ovate-lanceolate, acuminate, serrate, rough: flowers glomerate, lateral: stem herbaceous. Leaves 3-nerved, and on long petioles. *S.* P.

3—1. BOERHAA'VIA. 54. 32.

Southern.

erecta, (w. p. J. 2ſ.) stem columnar, trichotomous, rough below, smooth above: flowers in corymb-panicles.

17—2. BOLTO'NIA. 49. 55.

asteroides. (false aster. w-r. Au. 2ſ.) leaves very entire: flowers long-peduncled: seed oval, glabrous, sub-awnless. *S.* P.

glastifolia, (false chamomile. w. Ju. 2ſ.) lower leaves serrate; flowers short-peduncled: seeds obcordate, apparently winged, pubescent: awns of the egret two, of equal length with each other. Resembles Anthemis cotula. *S.* P.

Southern.

diffusa, E. (w. y. S. 2ſ?) leaves lance-linear, margin scabrous: panicle diffuse, many flowered: seed obovate, emarginate, slightly winged: egret two, long awns. 2 f.

Bootia, POTENTILLA.

Remark. Dr. Wallich has dedicated a new splendid East Indian genus to Mr. Boot: and Hooker says this plant may be returned to the genus Potentilla, under the specific name, *arguta*, a European species.

Boebera. In honor of Boeber, a Russian botanist.
Bœhmeria. In honor of Bœhmer, a German botanist.
Boerhaavia. In honor of Boerhaave, the celebrated physician.
Boltonia. In honor of Js. Bolton, a British naturalist, and artist.
Bootia. In honor of Francis Boott, of Boston, a very accurate botanist.
(1) Urtica cylindrica, L.

5—1. Bora'go. 41. 43.

Exotic.

officinalis, (borage. b. Ju. ☉.) leaves alternate: calyx spreading.
africana, (☉.) leaves opposite, petioled, ovate: peduncle many-flowered.

17—1. Borkhau'sia. 49. 53.

grandiflora, N. (W. y. ☉.) sub-cauline, with fine hairs: leaves lyre-runcinate, with lobes gashed-acute, sometimes sub-entire: stem very short: peduncle sub-solitary, very long, 1-flowered. Arkansas; found by Dr. Z. Pitcher.

Southern.

carolinicana, N. (y. March. ♄?) leaves lance-oblong, glabrous, rarely toothed, sometimes pinnatifid: stem erect, few-flowered: peduncles long. 2 f.

20—2. Bo'rya. 10. 96.

Southern.

porulosa, Mx. (dotted borya. L.) leaves lance-oblong, obtuse, sessile, coriaceous, dotted under side; margins revolute.
acuminata, Mx. leaves lance-oval, tapering at each end, petioled, membranaceous, slightly serrulate.

Botrophis, Macrotrys. *Raf.*

21—1. Botry'chium. 55. 5.

fumarioides, W. (1) (grape fern, moon wort. J. 2f.) scape naked: frond glabrous, radical, 3-parted, 2-pinnate; leafets lunate, crenate: spikes pinnate. *S.* P. Y.
obliquum, W. (J. Ju.) scape below, 1-fronded: frond sub-biternate; leafets oblong-lanceolate, serrulate, dilated at the base, unequally heart-form: spikes doubly pinnate. Perhaps only a variety of the last. P.
dissectum, (J.) scape below, 1-fronded: frond 3-parted, 2-pinnatifid; divisions linear, 2-parted, at the apex 2-toothed. *S.* P. Y. C.
virginicum, W. (2) (rattlesnake fern. O. J. Ju.) hirsute: scape in the middle fronded: frond sub-ternate 3-parted, 2-pinnatifid; leafets gash-pinnatifid; divisions obtuse, sub-3-toothed: spikes 2-pinnate, divaricate. Large. *S.*

Borago. Lat. corrupted from *bor*, heart, and *ago*, to affect, it being supposed to cheer the spirits.
Borkhausia. In honor of M. Borkhausen, a distinguished German botanist.
Borya. In honor of the botanical traveller, M. Bory de St. Vincent.
Botrychium. Gr. *botrus*, a bunch of grapes, referring to the fructification which resembles this.
(1) Botrypus lunarioides, Mx. Osmunda biternata, Lk. (2) Osmunda virginica, L. Botrypus virginicus, Mx.

gracile, Ph. (J.) glabrous: scape in the middle, fronded: frond 3-parted, 2-pinnatifid; divisions gash-sub-pinnatifid, acute, sub-toothed: spikes slender, pinnate, erect. Smaller. Var. of the last? C. Y. W. P. T.

simplex, Hitchcock. (J.) glabrous: scape below, 1-fronded: frond simple, 3-lobed or 3-cleft: segments unequal: spike sub-compound, interrupted, unilateral: capsules sessile. Capsules the size of mustard seed. Grows in dry hilly pastures, about three or four inches high. Vid. Amer. Jour. Sci. vol. 6, p. 103. N.

Boykinia, SAXIFRAGA.

3—2. BRA'CHYELY'TRUM. 4. 10.

erectum, P. (false dropseed. A. Ju. 2ℓ.) pubescent: culm strong, simple: panicle with few branches. Taken from the Muhlenbergia. The specific name, *aristatum*, has been substituted by some. S. C. O. H. N.

17—2. BRACHY'RIS. N. 49. 55.

Southern.

sarothrae, Ph. (1) (W. y. 2ℓ.) stems numerous, angled, scabrous, naked below, corymbed above, branches few-flowered at the top: leaves linear, close-pressed, obsoletely 3-nerved, scabrous both sides. Taken from Solidago. The specific name, *euthamiae*, is substituted by some. 7 i.

Brachystemum, PYCNANTHEMUM.

Brassica, HYDROPELTIS.

14—2. BRAS'SICA. 39. 63.

Exotic.

orientalis, (perfoliate cabbage. ♂.) leaves heart-form, clasping, glabrous; radicle ones entire: silique 4-sided.

napus, (kale or cole. ♂.) root caulescent, fusiform: leaves smooth; upper ones heart-lanceolate, clasping; lower ones lyrate-toothed. (Rape.) Nuttall supposes this species grows native in ledges of rocks near Arkansas.

rapa, (turnip. ♂.) root caulescent, orbicular, depressed fleshy: radical leaves rough; cauline ones very entire, smooth. Var. *ruta-baga*, has a turbinate, sub-fusiform root.

oleracea, (common cabbage, including all the varieties caused by culture, ♂.) root caulescent, terete, fleshy: leaves smooth, glaucous, repand-lobate.

14—2. BRAY'A. 39. 63.

alpina, Hk. (W. 2ℓ.) leaves glabrous: scape scarcely leafy: bract-bearing, racemes capitate. R.

Brachyelytrum. Gr. *brachus*, short, and *elutron*, sheath, from its short calyx

Brachyris. Gr. *brachus*, short, and *acheiron*, a chaffy scale; the egret being short and chaffy.

Brassica. Obscure: some say from Gr. *brasso*, to boil, it being used as a pot herb; others derive it from Celt, *bresic*, signifying cabbage.

Braya. Named by Dr. Hoppe, after Count Bray, a German patron of science.

(1) Solidago sarothræ, Ph.

glabella, Rich. (w. p.) leaves glabrous: scape mostly leafy; fruit-bearing racemes lax long. A.

17—1. BRICKEL'LIA. 49. 54.

cordifolia, (p. Au.) lower leaves cordate, acuminate, dentate, pubescent; upper ones obtuse: involucre many-flowered: corol tubular, 5-cleft; stamens attached to the corol: seed long, hairy; receptacle naked and dotted.

3—2. BRI'ZA. 4. 10.

media, (quaking grass, rattle-snake grass? J. 2ℓ.) panicle erect: spikelets heart-ovate, about 7-flowered: calyx smaller than the flowers. 1 f. Probably introduced. Bw. C.

Exotic.

maxima, (rattle-snake grass? ☺.) spikes cordate, with 17 florets in each; calyx chesnut-brown.

6—1. BRODIÆ'A. 9. 16.

Southern.

grandiflora, S. (W. Ap. 2ℓ.) umbels many-flowered: flowers pedicelled: stamens alternate, with membranaceous margins. Called Missouri hyacinth.

3—2. BRO'MUS. 4. 10

secalinus, W. (chess. O. J. ☺.) panicle nodding: spikelets ovate, compressed: glumes naked, distinct: awns shorter, subulate, straitish-zigzag Probably from Europe; common in rye and wheat-fields. Florets about 10 in each spikelet: leaves somewhat hairy. S.

ciliatus, W. (1) (W. 2ℓ) panicle nodding: spikelets oblong. compressed, 6 to 8-flowered: florets awned at the margin, ciliate-villose: sheaths and both sides of the leaves sub-pilose: culm bearded at the joints. S. Woods. Y. O. W. P. T. C. N.

pubescens, M. (broom-grass. W. J. 2ℓ.) culm hairy below: joints brown: stipules very short: panicle at length nodding, pubescent: calyx less than corol, 8 to 12-flowered: corol pubescent, one valve awned beneath the apex. Var. *ciliatus*, has a ciliate valve in each corol; 8 to 10-flowered. Var. *canadensis*, has one very hairy, 7-nerved valve to each corol, and a short bristle. Y. V. P. O. M. N.

purgans, W. (Au. W. 2ℓ.) panicle nodding; spikelets lanceolate, terete: florets awned, pilose; awns erect: leaves glabrous both sides, their sheaths pilose. S. Y. W. P.

mollis, S. (W. Ju.) panicle erect, compact: peduncles ramose: spikelets ovate: florets imbricate, depressed, nerved, pubescent: bristle straight, nearly as long as the corol: leaves with short hairs. Y. N.

Brickellia. In honor of Dr. Brickell, of Savannah.
Briza. Gr. *brithō*, to nod or hang down, alluding to the spike.
Brodiæa. In honor of James Brodie, an eminent Scotish botanist.
Bromus. Gr. *bromos*, wild oats, also any food for man or beast.
(1) canadensis, Mx.

Southern.

altissimus, Ph. (W. J. 2ſ.) panicle nodding, spikelets oblong, about 6-flowered: florets pubescent: outer valve 3-nerved, with a short awn: leaves and sheaths glabrous: culm glabrous, very tall. 7 f.

20—4. BROUSSONE'TIA. 53. 98.

Exotic.

papyrifera, (paper mulberry, M. ♄.) leaves sub-cordate, lobed or undivided: roots sending off suckers. 20 f. Dn.

8—3. BRUNNI'CHIA. 12. 28.

Southern.

cirrhosa, (A. 2ſ.) climbing: leaves cordate, acute, glabrous, entire: panicles terminal: bracts ovate, mucronate.

13—2. BUCHNE'RA. 40. 35.

americana, W. (blue-hearts. O. b. Au. 2ſ.) stem simple: leaves lanceolate, sub-dentate, rough, 3 nerved; flowers remote, spiked. In the herbarium this plant becomes black. 1 f. *S.* P. Y. O.

5—11. BUME'LIA. (1) 43. 48.

Southern.

lycioides, Ph. (g-w. M. ♄.) spinous, erect; leaves broad-lanceolate, smooth both sides. Fruit a drupe. Wood hard and heavy.

reclinata, Ph. (J. ♄.) spiny, spreading: sterile branches spreading: leaves small, obovate, very smooth.

lanuginosa, (g-y. J. ♄.) spiny: branches expanding, hairy; leaves lance-oval, woolly under side. 10 f.

tenax, (g-y. ♄.) spiny: leaves lance wedge-form, mostly obtuse, silk-downy beneath. 25 f. Charleston, S. C.

oblongifolia, N. (W. ♄.) spiny: leaves oblong-ovate, obtuse, narrowed at the base, hairy beneath: flowers conglomerate, sub-sessile, numerous: segment of the nectary 3-cleft. 18 f.

14—1. BU'NIAS. 39. 63.

maritima, W. (sea-rocket. L. p. Ju. ☉.) var. ***americana***, T. leaves wedge-oblong. obtuse, sinuate-toothed: joints of the silicle 1-seeded; upper ones ovate, acute. Plant fleshy, corymbed. Canada. N. Haven.

Broussonetia. In honor of Broussonnet, a French naturalist of distinction.

Brunnichia. In honor of Brunnich, a Danish naturalist.

Buchnera. In honor of John Godfrey Buchner, a German botanist.

Bumelia. Gr. *boumelia*, the name given by the Greeks to our common ash.

Bunias. Gr. *bounos*. a little hill, alluding to its tuberous root, or the places, where it mostly grows.

(1) Sideroxylon, Mx.

17—2. BUPHTHAL'MUM. 49. 55.

Southern.

frutescens, (ox-eye, y. J. ♄.) leaves opposite, wedge-lanceolate, fleshy, whitish; petioles 2-toothed: stem shrubby. 2 f. Charleston, S. C.

angustifŏlium, Ph. (2ſ.) leaves alternate, linear, border near the summit, entire, glabrous: involucre of acute, lanceolate, leafets.

sagittatum, Ph. (W. y. J. 2ſ.) tomentose: radicle leaves long-petioled, oblong, sagittate, entire, somewhat 3-nerved; cauline ones oblong, tapering into the petiole: stem about 3-flowered: outer leafets of the calyx longer than the disk.

5—2. BUPLEU'RUM. 45. 60.

ranunculoides, ( ) radical leaves linear-lanceolate; cauline ones clasping cordate-oblong, striate; involucre sub-3-leaved unequal; leafets of the involucels 5, ovate, mucronate, nerved. distinct. R. Behrings straits.

Exotic.

rotundifolium, (thorough wax. y. J. ☉.) leaves simple, perfoliate: involucre none. One of the few umbelliferous plants with simple leaves. 2 f. Cultivated.

Burmannia, TRIPTERELLA.

19—4. BUX'US. 38. 96.

Exotic.

sempervirens, (box. ♄.) leaves ovate, petioled, somewhat hairy at the margin: anthers ovate, arrow-form. Var. *angustifolia*, leaves lanceolate. Var. *suffruticosa*, leaves obovate, stem hardly woody.

C.

Cabomba, NECTRIS.

17—1. CACA'LIA. 49. 55.

suaveolens, W. (wild caraway. W. w. Au. 2ſ.) stem herbaceous: leaves petiolate, hastate-sagittate, serrate, glabrous, green on both sides: flowers corymbed, erect: calyx many-flowered. 3—4 f. *S.* P.

atriplicifŏlia, W. (orache caraway. W. w. Au. 2ſ.) stem herbaceous, leaves petioled, glabrous, glaucous beneath; radical ones cordate: toothed; cauline ones rhomboid, sub-2-toothed both sides; flowers corymbed, erect: calyx 5-flowered. Flowers small. *S.* P.

reniformis, W. (W. w. Au. 2ſ.) stem herbaceous: leaves petioled, glabrous beneath, pilose at the veins: radical ones heart-kidney-form, repand-toothed; cauline ones toothed, at the base wedge-form, entire: corymbs level-topped: calyx many-flowered. 5—10 f. P.

Buphthalmum. Gr. *bous*, a bull, and *ophthalmos*, the eye, from the resemblance of its flower.

Bupleurum. Gr. *bous*, ox, *pleuron*, rib or side, alluding to the stiff striated leaves of some species.

Buxus. Gr. *puxos*, of *pukazō*, to thicken or make hard, from the density of its wood.

Cacalia. Gr. *kakalia*, a name given by Theophrastus to a mountain plant with large whitish leaves.

Southern.

ovata, Wr. (w. S—Oc.) stem herbaceous: leaves ovate, obtuse; obtusely toothed, nerved, slightly glaucous beneath; the lower ones petioled: involucre 5-leaved, 5-flowered. 3—4 f.

lanceolāta, N. (y.w.) stem herbaceous: leaves narrow lanceolate, acute at each end, remotely toothed, nerved, slightly glaucous beneath: involucre 5-leaved, 5-flowered. 4—6 f.

tuberosa, N. (W.) root tuberous: stem herbaceous: leaves petioled, ovate, obtuse, 5-nerved, entire: flowers corymbed, sub-fastigiate: calyx naked, 5-flowered, 5-leaved: leafets carinate. Flowers nearly white. 4—6 f. Natchez.

11—1. CAC'TUS. 13. 85.

opuntia, L. (1) (prickly pear. W. y. J. 2ſ.) proliferous: articulations compressed, ovate: bristles fascicular. The plant appears like a series of thick succulent leaves, one growing from the top of another. *S.* F. C. P. Y. Dry rocks. Catskill. Hudson. N. Haven.

Southern.

vivi'parus, Ph. (1) (W. r. Ju. 2ſ.) roundish, manifold or cespitose: tubercles cylindric, bearded, grooved and proliferous above the furrows.

mammillaris, L. (W.) tubercles ovate, terete, bearded: flowers scarcely exserted: berries scarlet about equal with the tubercles.

ferox, N. (W. y. & r. Ju.) proliferous: articulations large, nearly circular, spiny: spines double; larger ones radiate, persistent: fruit dry, spiny.

fragilis, N. (W.) proliferous: articulations short, oblong, somewhat terete, fragile: spines double: flowers solitary, small: fruit dry, spiny.

cylindricus, (W. p. ♄.) very branching: terminal branches consisting of long cylindrical articulations: surface reticulated with decussate furrows.

14—1. CAKILE. 39. 63.

edentula, (L.) upper joint of the silicle ovate acute toothless. American sea-rocket.

19—12. CALADIUM. 2. 7.

glaucum, E. (J. ♂.) stemless: leaves glaucous, hastate-cordate, acuminate; lobes oblong, obtuse: spathe cucullate, the summit oval lanceolate, white, longer than the spadix. 12—15 i. *S.*

3—2. CAL'AMAGROS'TIS. 4. 10.

coarctata, T. (2) (Ju. 2ſ.) panicle somewhat spiked, conglomerate: calyx a little longer than the corol, carinate: corol longer than the egret, awned a little below the tip. Resembles Agrostis glauca. 3—5 f. *S.* P.

Cactus. Gr. *kaktos*, the ancient name for the prickly pear.

Cakile. An Arabian name of the Sea-rocket.

Caladium. A name used by Rumphius for some kinds of Arum.

Calamagrostis. Gr. *kalamos*, a reed, and *agrostis*, grass, from its partaking of the nature of both.

(1) Mammillaria. Dc.

(2) cinnoides. B.—canadensis, N.—Arundo stricta, Sl. glauca M.

13—1. CALAMIN'THA. 42. 42.

Southern.

nepeta, W. (r-w. J. 2ℓ) pubescent, very branching: leaves ovate, obtuse, sub-serrate: whorls peduncled, dichotomous-corymbed, longer than the leaves: down or wool of the calyx prominent.

grandiflora, Ph. (r. Ju.) suffruticose: leaves ovate, obtuse, crenate, smooth: whorls many-flowered, on short peduncles, shorter than the leaves. 12—18 i.

17—4. CALEN'DULA. 49. 54.

Exotic.

officinalis, (pot marygold. y. ☺.) seed keeled, muricate, incurved.

19—12. CAL'LA. 2. 7.

palustris, W. (water arum. O. w. J. 2ℓ.) leaves sub-roundish, heart-form, acute: spathe ovate, cuspidate, spreading when mature. Grows in wet places.

4—1. CAL'LICAR'PA. 46. 41.

Southern.

americana, W. (r. J.) leaves serrate, tomentose underneath. 3—4 f.

12—4. CAL'LIGO'NUM. 12. 28.

Southern.

canescens, Ph. (W. J. ♄.) dioecious, pulverulent-tomentose: leaves lanceolate: flowers in axillary glomerules, spiked towards the ends of the branches: fruit winged; veins of the wings crowned with teeth.

17—3. CALLIOPSIS. 49. 55.

atkinsoniana, Reich (2ℓ) leaves very glabrous; radical ones bi-pinnatifid; cauline ones pinnate with linear spatulate divisions: florets of the ray often spotted at the base, irregularly 3-lobed. R.

Callirhoe, NUTTALLIA.

1—2 CAL'LITRI'CHE. 12. 88.

verna, var. intermedia, W. (1) (water chickweed, or starwort. O. w. M. ☺.) upper leaves spatulate-obovate; lower ones linear, obtuse and emarginate: flowers polygamous: margin of the capsule obtuse. *S. C. F.*

Calamintha. Gr. *kalamos*, a reed, and *mintha*, mint, its appearance and smell uniting both.

Calendula. Lat. *calenda*, the first day of every month, from its flowering monthly.

Calla. Gr. *kallos*, beauty, from the elegance of the flowers.

Callicarpa. Gr. *kallos*, beauty, and *karpos*, fruit, from the elegance of the fruit.

Calligonum. Gr. *kallos*, beauty, and *gone*, joint, implying a beautiful jointed structure.

Calliopsis. Gr. *kalas*, beautiful, *opsis*, seeing, or to look at: the flower being beautiful.

Callitriche. Gr. *kallos*, beauty, and *trix*, (*trichos*,) hair, alluding to the floating leaves.

(1) heterophylla, Ph. aquatica Bw.

autumnalis, L. (Au. S. ☉.) leaves all linear, 1-nerved, truncate or emarginate: capsules with an acute margin: flowers all perfect. C. P. Y. N.

terrestris, R. (1) (Ju. ☉.) procumbent, diffuse: leaves oblong, uniform, rather obtuse: capsule grooved on the margin. Y. C.

6—3. CA'LOCHOR'TUS. 10. 14.

luteus, N. (y. 2ſ.) stem forked, about 2 flowered: leaves setacous short; flowers large, inner petals much largest glabrous at the apex; spotted ciliate at the base; a mark in the claws of the downy petals. Root bulbous. R.

Southern.

elegans, Ph. (W. w. & p. 2ſ.) scape nearly 3-flowered, shorter than the single leaf: petal woolly within.

Callopogon, CYMBIDIUM.

12—13. CAL'THA. 26. 61.

palustris, W. (american cowslip, marsh marygold. O. y. Ap. 2ſ.) stem erect: leaves cordate, sub-orbicular, acute-crenate. 12—18 i.

integer'rima, Ph. (y. M. 2ſ.) stem erect, corymbed: leaves entire, with a closed sinus, orbicular-heart-form: floral leaves sessile, kidney-form, at the base obsoletely-crenate: petals obovate. P.

parnassifolia, R. (2) (fig cowslip. y. J. 2ſ.) stem erect, 1-flowered, 1-leafed: radical leaves heart-ovate, very obtuse, few-toothed, many-nerved: petals elliptic. *S.* Y.

flabellifolia, Ph. (tooth-leaf cowslip. y. J. 2ſ.) stem procumbent: leaves spread-reniform: lobes very spreading, acute and sharp toothed all around: peduncles axillary, solitary, 1 flowered: petals obovate: capsule hook-beaked. Probably the *dentata* of Muhl. P.

natans, Dc. (w. 2ſ.) stem procumbent, floating: leaves heart-reniform, crenate; lobes approximate; behind obsoletely crenate, before dentate: divisions of the calyx oval: capsules with a straight beak. Canada.

Southern.

sagittata, Dc. (W. w.) scape 1-flowered: leaves ovate, obtuse, entire, heart-sagittate at the base, with inflexed auricles above: divisions of the nectary 9. pistils 13 to 15.

11—13. CALYCAN'THUS. 35. 92.

laeviga'tus, W. (p. M. ♄.) segments of the calyx lanceolate: leaves oblong or oval, gradually acuminate, somewhat rugose, smooth and green on both sides: branches straight, erect. 4—6 f.

Southern.

floridus, W. (carolina allspice. p. M. ♄.) divisions of the calyx lanceo-

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Calochortus. Gr. *kallos*, beautiful, *chortos*, fodder, meaning that it is good for cattle.

Caltha. Gr. *kalathos*, a basket, from the shape of its corol, or, of *chalkos*, brazen, yellow, from its color.

Calycanthus. Gr. *kalux*, a calyx, and *anthos*, a flower, the calyx resembling a corol.

(1) brevifolia, Ph. (2) ficaroides, Ph.

olate: leaves broad-oval, acute, tomentose beneath; branches spreading. Florida. Cultivated. 3—7 f.

inodorus, E. (Ap. ♄.) segments of the calyx linear-lanceolate, pubescent; leaves lanceolate, scabrous and shining on the upper, smooth on the lower surface; branches spreading. 4—6 f.

glaucus, W. (J. ♄.) segments of the calyx lanceolate: leaves lanceolate, long acuminate, glaucous beneath: branches spreading. 6—8 f.

3—1. CALYME'NIA. (1) 54. 32.

albida, Wr. (Ap. ☉.) leaves opposite, oblong, lanceolate, sub-scabrous: peduncles opposite, solitary and clustered: involucres 5-cleft.

nyctaginia, Mx. (W. Ju. 2f.) stem erect: leaves broad-cordate, acute, glabrous: peduncles solitary; fruit-bearing calyx sub-hirsute, much smaller than the broad involucre. Resembles Mirabilis.

linearis, Ph. (W.) stem erect, terete: leaves linear, somewhat fleshy: flowers racemed; pedicels aggregated: stamens very exsert.

hirsuta, Ph. (W.) stem erect, angled: leaves lanceolate, nerved, hirsute both sides: calyx very hirsute, sub-3-flowered.

decumbens, N. (W. r. J.) stem round, decumbent: leaves entire, narrow, sessile: peduncles axillary. Missouri.

18—1. CALYP'SO. 7. 21.

americana, Br. (W. p.) lip narrowed, sub-unguiculate at the base: spur-half 2-cleft, exceeding the lamina: divisions acute: peduncle longer than the germ.

borealis, Ph. (p.r. J. 2f.) radical leaf single, round-ovate, nerved: scape 1-flowered, sheathed. *S.*

Calystegia, CONVOLVULUS.

14—1. CAMELI'NA. 39. 63.

sati'va, P. (wild flax, mad-wort. y. J. ☉.) silicle obovate, pyriform, margined, tipped with the pointed style; leaves sub-entire, lanceolate, sagittate. 18 i. C. P.

barbareaefolia, Dc. ( ) silicles globose: leaves oblong pinnatifid, obtusely auricled at the base: stem villose at the base. R

5—1. CAMPAN'ULA. 29. 52.

rotundifolia, W. (flax bell-flower, hair-bell. O. b. J. 2f.) glabrous: radical leaves heart-reniform, crenate: cauline ones linear, entire; panicle lax, few-flowered: flowers nodding. Radical leaves wither as soon as the flower expands. 1—2 f. *S.*

amplexicaulis, Mx. (2) (clasping bell-flower. O. b. M. ☉.) stem simple, erect: leaves heart-form, crenate, clasping: flowers axillary, sessile, glomerate. 12—18 i. *S.*

americana, W. (W. b-w. Au. 2f.) leaves ovate-lanceolate, long-acu-

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Calymenia. Gr. *kalux*, a calyx, and *umen*, a membrane, on account of the membranous calyx, by which the genus is distinguished.

Calypso. Gr. *kalupto*, to conceal, referring to the stigma being covered: or from the goddess *Calypso*, whose habitation was inaccessible.

Camelina. an old French name, said to allude to its being the companion of flax, linum, or chamæ-linum, dwarf flax.

Campanula. Lat. *campanula*, a little bell, alluding to the shape of the corol.

(1) Allionia, Mx. (2) perfoliata, L.

minate; lower ones sub-cordate, with the petioles ciliate: flowers axillary, nearly sessile, in a terminal leafy raceme: corol-sub-rotate: style exsert. Cultivated. 2 f. .P.

acuminata, Mx. (b-w. Ju. 2ℓ.) smoothish erect: leaves ovate-lanceolate, ending in a long acuminate point, sub-serrate: spike fascicular, many-flowered: corol somewhat wheel-form. Is this a variety of *americana*? 2—5 f. *S.* P. T. D.

erinoides, M. (1) (prickly bell-flower. W. w b. J. ☉.) slender: stem simple, angular: angles and the margin and nerve of the leaves with reversed prickles: leaves linear-lanceolate, glabrous on the upper side: peduncles few: those on the top of the stem flexuose; axillary ones 1-flowered, filiform. 12 i. C. N. T.

nitida, W. (b. Ju. 2ℓ.) very glabrous: radical leaves oblong-spatulate, coriaceous, cartilaginous-crenate; cauline ones lance-oblong, sub-entire: flowers racemed: corol bell-wheel-form. 7 i.

uniflora, L. (W.) pubescent: radical leaves round-obovate; cauline ones lance-linear, somewhat toothed: stem about 1-flowered.

Exotic.

medium, (canterbury bells. w. b. Au. ♂.) capsule 5-celled, covered: stem undivided, erect, leafy: flowers erect.

speculum, (venus' looking-glass. b. Au. ☉.) stem very branching, diffuse, leaves oblong, sub-crenate: flowers solitary, often destitute of the scales at the base.

lanuginosa, (rough bells.) woolly hispid: leaves ovate, rugose, crenate, tapering into the petiole: stem simple: flowers sub-sessile, erect-spreading

urticaefolia, W. (nettle-leaved bell-flower, Au. p. 2ℓ.) stem angular hispid: leaves lance-ovate coarsely serrate: peduncle axillary, 1-flowered, nodding: calyx hispid.

Southern.

divaricata, Mx. (b. Au. 2ℓ.) leaves lanceolate, acute, with large serratures, glabrous: panicle expanding: flowers nodding. 2 f.

4—1. CAM'PHOROS'MA. 12. 29.

Southern.

glabra, P. (L. 2ℓ.) leaves somewhat 3-sided, glabrous, unarmed.

1—1. CAN'NA. 8. 20.

Southern.

flaccida, Roscoe, (2) (y. J. 2ℓ.) interior limb of the corol 3-cleft; segments flaccid. 2—3 f.

angustifolia, W. (r. Au. 2ℓ.) leaves petioled, lanceolate, ribbed: interior limb of the corol 3-cleft; divisions straight, emarginate.

20—5. CAN'NABIS. 53. 98.

Exotic.

sativa, W. (hemp. g. Au. ☉.) stem pilose: leaves petioled, digitate;

Camphorosma. Lat. *Camphora*, camphor, and Gr. *osme*, smell, from its odor.

Canna. From the Celtic word *can*, signifying a reed or mat.

Cannabis. Gr. *kannabis*, hemp: the Arabic name is *ganeb*.

(1) aparanoides, Ph. flexuosa? Mx. (2) angustifolia, Wr.

leafets lanceolate, serrate, pilose: staminate flowers solitary, axillary; pistillate ones spiked. 4—10 f. Grows spontaneously. T.

5—1. Can'tua. 29. 45.

longiflora, T. & J. (W.) very glabrous; leaves slenderly pinnatifid: flowers terminal, lax-corymb-panicled, peduncled: tube of the corol very long, tubular; divisions orbicular, slenderly acuminate: style exsert.

pungens, T. & J. (W.) leaves irritable, digitate, sub-fascicled; divisions subulate, pungent: divisions of the corol obovate, obtuse.

Southern.

coronopifolia, W. (O. r. & y. Ju. ♂?) leaves pinnatifid: flowers terminal, peduncled, in loose racemes: corol thrice as long as the calyx. 2—3 f.

floridana, N. (♂.) glabrous: leaves cut-pinnate capillaceous: flowers in lax racemes; corol tubular narrow, below limb, 1-fourth as long as the tube: calyx abbreviated: divisions setaceous. Florida.

aggrega'ta, Ph. (W. r. J. ♂.) pubescent: leaves slenderly pinnatifid: flowers terminal and lateral, somewhat in heads, sub-sessile: divisions of the corol narrow, oblong, gradually acute: style included, very short.

parviflora, Ph. (W. b. J. ☺.) pubescent, diffuse: leaves pinnatifid; divisions long-linear: peduncles solitary, 1-flowered, terminal, and opposite to the leaves: corol a little longer than the calyx.

13—2. Capra'ria. 40. 37.

pusilla, T. & J. (W. w. ☺.) hairy: leaves opposite, cordate, repand-toothed, petioled: peduncles axillary, longer than the petioles.

Southern.

multifida, Mx. (W. g-w. Ju. ☺.) erect, viscid-hairy: upper leaves 3 in a whorl, many-cleft: pedicels solitary. K.

biflora, M. (E. 2.) leaves alternate, ovate, serrate: flowers in pairs.

Caprifolium, Lonicera.

14—1. Capsella. 39. 63.

bursa-pastoris, (shepherd's purse. O. w. M. ☺.) hirsute, (sub-glabrous by growing in rich soil;) radical leaves pinnatifid.

5—1. Capsicum. 28. 38.

Exotic.

annuum, (guinea pepper, red pepper, cayenne pepper. y-g. w. Au. ☺.) stem herbaceous: peduncles solitary. From South America. 10—18 i.

Cantua. The Peruvian name of this plant.

Capraria. Lat. *capra*, a goat, those animals being fond of it.

Capsella. Lat. *capsa*, box or casket, from the casket-like form of the silicle.

Capsicum. Gr. *kaptō*, to bite, from its qualities.

Southern.

baccatum, L. (bird pepper. ☂.) stem smooth; peduncles in pairs. Southern States, or Florida.

14—2. CARDAM'INE. 39. 63.

bellidifolia, L. (daisy-leaved water cress. W. w. 2ſ.) leaves simple, round-ovate, entire: petioles very long: flower-bearing stem of the length of the leaves. R.

rotundifolia, Mx. (1) (W. A. w. M. 2ſ.) leaves sub-orbicular, nearly entire. smooth, petiolate: stem simple, weak procumbent. 9—15 i. Whitehills. S. R. N.

articulata, Ph. (W. 2ſ.) stem naked: leaves radical, lanceolate, gash-toothed, glabrous: siliques thick, somewhat jointed.

teres, Mx. (w. J. 2ſ.) small, erect, ramose: leaves all sub-lyrate-pinnatifid: silique short, terete, acuminate. New England. Ph.

pennsylvanica, W. (american water-cress. O. w. M. 2ſ.) glabrous, branching: leaves pinnate: leafets oblong, obtusish, (sub-decurrent?) lower leaves with broader tooth-angled leafets: silique narrow, erect. 12—18 i. S. The flavor of this cress is very superior to the cultivated European species.

pratensis, W. (field water-cress. O. r-p. M. 2ſ.) simple, glabrous, erect: leaves pinnate: radical leafets roundish, toothed: cauline ones lanceolate. sub-entire: racemes sub-corymbed. A variety of the last.

virginica, W. (W. w. M. 2ſ.) glabrous, erect: leaves pinnate; leafets lanceolate, sub-auricled: silique long, straight, erect. 5—8 i. S. R. P. C. N Pittsfield, Mass.

hirsuta, (M. ☉.) leaves pinnate, hairy: leafets of the radical ones roundish, petiolate; those of the upper ones oblong, sub-sessile: petals oblong: siliques erect. P. R.

purpurea, H. (p.) sub-glabrous, radical and cauline leaves ternate, or quinate, with the lateral leafets, round-oval acute: terminal ones round-cordate 3-toothed: petals net-veined: bracts sessile at the base of the lower pedicels, cuneate, 3-toothed. R.

angulata, H. (r. 2ſ.) leaves petioled ternate, rarely quinate-pinnate: radical ones roundish; cauline ones ovate or lanceolate, angled or gash-lobed, glabrous. R.

digituta, Rich. (w-p.) leaves digitately pinnate; divisions sessile linear very entire: style short, scarcely more slender than the silique: stigma capitate. A.

Southern.

spathulata, Mx. (w. A. ☉?) small: stems decumbent: root leaves spatulate, pubescent; cauline ones narrow, cuneate, entire, toothed: pods loosely divaricate. 6—12 i.

uniflora, Mx. (W.) stemless, small: leaves obtusely lyrate-pinnatifid: peduncles radical, 1-flowered.

multifida, Ph. (2ſ.) hairy, branching: leaves interruptedly pinnate; leafets 2-pinnatifid, with roundish gashed divisions: siliques short.

Cardamine. Gr. *kardia*, the heart, and *damaō*, to tame, from its fancied carminative qualities.

(1) Arabis rhomboidea, P.?

8—3. Car'diosper'mum. 23. 65.

Southern.

halcăcabum, W. (O. Au. ☉.) glabrous: leafets incised and lobed; the terminal one rhomboidal.

17—1. Car'duus. 49. 54.

pectinatus, W. (comb thistle, meadow thistle. p. ♂.) unarmed: leaves decurrent, lanceolate, pectinately pinnatifid: peduncles almost leafless, terminal, very long, about 1-flowered: flowers nodding, often discharging the pollen: scales of the calyx linear-spreading.

19—3. Ca'rex. 3. 9.

Remarks. The Monograph of North American species of Carex by Schweinitz, edited by Torrey, is a work of very great merit; such as was to be expected from these gentlemen. But Prof. Dewey has made the Carex a subject of study for 18 years; and appears to me to have brought this very difficult genus down to the capacities of those learners for whom this Manual was compiled. I shall therefore adopt his Caricography, as published in the 7th, 8th, 9th, 10th, 11th, 12th 14th, 25th, 26th, 27th and 28th vols. of Silliman's Journal, with a few trivial alterations.

I. Stigmas two.

A. *Spikes dioecious.*

wormskioldiana,* Hor. (mountain sedge. A. J. 2ℓ.) spike, single, simple: leaves flat; fruit-bearing spike sometimes with 3-stigmas, oblong, acute, cylindric, densely imbricate: fruit ovate and sub-ovate, short beaked, hairy, equalling the ovate acute scale. White Mts. Oakes. 5 i. Probably the *dioica*. *S.*

B. *Spikes dioecious and androgynous.*

exilis, Dewey, (M. 2ℓ.) spike single, slender: leaves 3-sided, bristly: fruit bearing spikes staminate below, somewhat dense flowered, simple: fruit, lance-ovate, convex both sides, diverging, serrulate or scabrous at the margin; scale a little longer than the fruit, ovate, acute. 16 i. Wet. Var. *squamacea*, has the spike androgynous and longer, and numerous staminate flowers.

sterilis, W. (barren sedge. M. 2ℓ.) spikelets in fives, sessile, approximate: fruit ovate, acuminate or somewhat beaked, 2-cleft, 3-sided-compressed, scabrous at the margin: equalling the ovate acutish scale. 8 i. Wet. *S. N.*

bromoides, Sh. (M. 2ℓ.) spikelets many, alternate, oblong, erect, the uppermost staminate below, the others pistillate, androgynous above and below, and staminate in the middle, or the middle ones staminate

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Cardiospermum. Gr. *kardia*, the heart and *sperma*, seed, from a mark at the base of the seed.

Carduus. A name applied to prickly plants, from their being used to card wool; and card is derived from *kaard*, Celtic.

Carex. From Lat. *carere*, to want, the upper spikes of these plants being constantly without seeds, consisting only of staminate flowers.

*For synonyms, see Silliman's Journal, and the annals of the N. Y. Lyceum.

below: fruit erect, lanceolate, acuminate, scabrous, nerved, bifid, half as long as the lance-ovate scale. 14 i. Wet. *S.* C. T. N.

C. *Spikes androgynous.*

1. *Stamens at the summit of the spikelets.*

cephalophora, W. (head sedge. M. 2*f*.) spikelets ovate, densely aggregated, somewhat in fives, threes, or sevens, bracted: fruit ovate, acuminate, compressed, bifid, margin scabrous, nearly equalling the small scabrous-cuspidate scales. 20 i. Woods. *S.* W. Y. B. P. T. C. N.

rosea, (Sh. M. 2*f*.) spikelets somewhat in fours, alternate, remotish; sessile, lower one with a long setaceous bract: fruit lance-oblong, convex above, margin scabrous, 2-toothed, diverging, about twice as long as the ovate obtuse scale. 12 i. Moist. Var. *radiata*, has its spikelets distant, about 3-flowered, with little setaceous bracts, and very narrow leaves. 6 i. *S.* T. N.

retroflexa, M. (O. M. 2*f*.) spikelets about in fours, alternate, ovate, subapproximate, sessile, bracted: fruit ovate, acutish, 2-toothed, margin glabrous or scabrous, reflex-spreading, about equal to the ovate acute scale. 1 f. Woods. *S.*

muhlenberghii, Sh. (W. 2*f*.) spikelets alternate, somewhat in fives, obtuse, approximate, staminate above; fruit ovate, compressed, nerved, 2-cleft, margin scabrous, sub-divergent, a little shorter than the ovate scale. 15 i. Mountain woods. *S.* P. C. N.

stipata, M. (O. M. 2*f*.) spike decompound; spikelets numerous, oblong, aggregated, bracted: fruit lance-ovate, terete at the base, plano-convex, scabrous at the margin, nerved, bifid, diverging, about twice as long as the lance-ovate scale. 2 f. Wet. *S.*

multiflora, M. (M. 2*f*.) spikes alternate, approximate, bracted, sessile; spikelets oblong-ovate, obtuse, bracted, conglomerate: fruit ovate, acuminate, compressed, densely imbricate, bifid, 3-nerved, diverging, a little smaller than the ovate-cuspidate scale. 20 i. Moist. Var. *microsperma*, has the fruit but little compressed or acuminate, and very small. *S.* C. T. P. O. N.

sparganoides, M. (M. 2*f*.) spikelets somewhat in eights, ovate, somewhat distant, bracted: fruit ovate, compressed, scabrous at the margin, diverging, acuminate, 2-toothed, twice as large as the ovate, mucronate scale. 20 i. *S.* C. O.

disperma, Dewey. (O. M 2*f*.) spikelets somewhat in threes, sub-approximate, erect, lower one bracted: fruit ovate, obtuse, nerved, plano-convex, glabrous, twice as long as the ovate, acute, sub-mucronate scale. 10 i. Wet woods and mountains, near Williams college.

setacea, Dewey. (W. J. 2*f*.) spikes sessile, alternate, approximate, bracted; spikelets ovate, obtuse, conglomerated, bracted: fruit lance-ovate acuminate, compressed, bifid, somewhat diverging, about equal to the lance-ovate awned scale. 2 f. High wet ground. C.

paniculata, (M. 2*f*.) spikelets sometimes dioecious; fuscous, ovate, condensed into a panicle: fruit lance-ovate, acuminate, gibbous, nerved, 2-toothed, ciliate-serrate at the margin, glabrous at the base, a little shorter than the ovate, acute, acuminate scale. 2 f. Damp. N.

decomposita, M. (W.) spike decompound or panicled; spikelets androgynous upper ones staminate alternate crowded together, very many

have two stigmas; fruit ovate, 3-sided, short-beaked or acutish, small, black glabrous, about equalling the white ovate acuminate scale.

teretius'cula, Gn. (2f.) spike twice or thrice compound, dense, somewhat pointed; spikelets clustered: fruit spreading, gibbous: stem roundish. Sometimes dioecious or polygamous. Wet. N.

muricata, (A. M. 2f.) spikes compound; spikelets somewhat in sixes, ovate, sessile, approxinate; often the lower ones are remotish: fruit ovate or oblong-ovate, acuminate, plano-convex, diverging, bifid, scabrous at the margin, twice as long as the ovate scale, or equal to the lance-ovate one. 1 f. Woods, fences, &c. Var. *cephaloidea*, Dewey, has spikelets aggregated, somewhat in fives, closely sessile; fruit ovate, twice as long as the scale.

chordorrhiza, W. (2f.) spikelets aggregated into an ovate head, somewhat in fours and fives: fruit ovate-acuminate: leaves of the culms close-pressed; culm sub-ramose at the base: root procumbent, often rising above ground, which gives the ramose appearance to the general culm (or the creeping root) upon which the upright and ascending culms are inserted. Found on St. Lawrence River near Ogdensburg. The above description is translated from Persoon's synopsis, with some additions taken from a specimen presented to Prof. J. Hall by Dr. Crawe, the discoverer of this locality. This is an European species mentioned by Prof. Dewey as being found on Columbia River, from whom we are to expect an improved description soon.

incurva, Lightf. spikelets androgynous, staminate at the apex, aggregate in a globe-ovate head: fruit ovate, sub-conic, terete, sub-rostrate, entire at the mouth, a little longer than the acute, ovate scale. 2-i. R.

stenophylla, Whl. spikelets aggregated in a sub-globose head, staminate above: fruit longish, ventricose, plano-convex, nerved, margin serrulate; mouth 2-toothed, about equalling the ovate, acute scales. 3—6 i. R. A.

2. *Stamans at the base of the spikelets.*

bicolor, Al. (2f.) spikes in threes, ovate, sub-sessile, erect: fruit obovate, obtuse, sub-compressed: scales ovate, obtuse. 6 i. Labrador.

loliacea, (2f.) spikelets in threes, rather distant, minute, few-flowered, sessile: fruit oval or ovate, obtuse, sub-compressed, spreading, nerved, entire at the orifice, about twice as long as the acute, ovate scale. S.

deweyi, Sz. (J. 2f.) spikes somewhat in threes, sessile, ovate, alternate, somewhat distant, the upper one without bracts: fruit lance-oblong, beaked, acuminate, 2-forked, plano-convex, sub-scabrous at the margin, a little longer than the lance-oblong, hyaline, short-awned, scale. 3 f. Slender and often procumbent. Rocky woods. N.

trisperma, Dewey. (J. 2f.) spikelets in threes, alternate, remote, sessile, ovate; upper one without bracts: fruit oblong, acute or beaked, plano-convex, entire at the orifice, many-nerved, sub-scabrous at the apex, somewhat spreading, longer than the oblong, acute, hyaline, scale. 20 i. Wet. N.

scoparia, Sh. (M. 2f.) spikelets alternate, ovate, sessile, in fives: lower one with caducous bracts: capsule lanceolate, nerved, glabrous, erect, longer than the lanceolate acuminate scale. 20 i. Wet. Spikelets tawney. S. C. O. B. P. N.

lagopodioides, Sh. (M. 2f.) spikelets crowded, numerous, scales smallish: capsules oval-oblong, flattish-convex, acuminate, spreading, membrane-margined; orifice 2-toothed. 2 f. Wet. *S.* N.

straminea, W. (straw sedge. M. 2f.) spike compound: spikelets somewhat in sixes, ovate, oblong, alternate, sessile, sub-approximate: fruit broad-ovate, roundish, compressed, winged, ciliate-serrate, beaked, nerved, 2-toothed, a little longer than the lance-ovate scale. 18 i. Moist. Var. *brevior*, Dewey, fruit short-obovate and beaked, scarcely longer than the scale. Var. *minor*, Dewey, spikelets obovate, and fruit with serrulate wings, small. T. N.

foena, M. (2f.) spike compound; spikelets ovate, aggregated above: fruit ovate, acuminate, scabrous margined, 2-toothed, about equal to the lance-oblong scale. 2 f. Wet. *S.* Pennsylvania.

cristata, Sz. (J. 2f.) spikelets sessile, 6 to 14, closely agg egated, globose, bracted: fruit oblong-ovate, compressed, diverging, winged, beaked, acuminate, bifid, concavo-convex, ciliate-serrate at the margin, longer than the lance-oblong scale. 2 f. Moist. C. T. M. O.

stellulata, Sr. (W. M. 2f.) spikelets about in fours, ovatish, somewhat remote, sessile: fruit ovate, sub-acuminate, compressed, sub-bifid, scabrous at the margin, diverging and reflexed, a little longer than the ovate obtusish scale. 10 i. Wet. T. B. O. N.

scirpoides, Sh. (W. M. 2f.) spikelets in fours, sessile, ovate, obtuse; lower one bracted: fruit ovate, cordate, compressed, beaked, scabrous at the margin, longer than the ovate, acute scale. 10 i. Wet. Often very small. S. T. N.

curta, Gn. (O. M. 2f.) spikelets in fives, sub-approximate: scales subequal: fruit round-ovate, acutish, somewhat convex and obtuse angled; flat beneath, and round above; orifice 2-toothed. 20 i. Wet. woods. Probably includes the *canescens*.

festucacea, Sh. (M. 2f.) spikelets sessile, alternate, ovate, approximate 5–8 bracted: capsules roundish-ovate, beaked, winged, striate, 2-toothed, ciliate-serrate at the margin, larger than the lance-ovate, mucronate scale. 2 f. Moist. *S.* C. T. P. N.

tenera, Dewey. (M. 2f.) spikes about in fives, obovate, remotish, alternate, sessile, slender below; the lowest bracted: fruit ovate, compressed, beaked, subulate, nerved, ciliate-serrate, larger than the lance-oblong scale. 2 f. Moist. N.

ovalis, Good. spikes androgynous, staminate at the base, about in sixes: oval, sessile, sub-approximate: fruit ovate-oval, compressed, acuminate: membrane margined, bifid at the mouth, equalling the long ovate scale. 12—20 i. R.

3. *Stamens at the apex of the highest and lowest spikelets—the middle spikelets wholly staminate.*

siccata, Dewey. (J. 2f.) spikes compound; terminal spikelets obtuse; lower ones mostly in fours, ovate, acutish: fruit lance-ovate, acuminate, compressed, scabrous at the margin, bifid, nerved, about equal to the lance-ovate scale. 15 i. Sand. N.

D. *Stamens and stigmas on separate spikes.*

1. *Staminate spikes single.*

novae angliae, Sz (A. J. 2f.) staminate spike short, slender, arising from the same base with the upper fruit-bearing one; pistillate spikes 2 or

3, somewhat remote, sessile, ovate, alternate, few-flowered, bracted: fruit somewhat 3-sided-oval, sub-ventricose, ribbed, beaked, minutely pubescent, a little longer than the ovate, mucronate scale. 7 i. On Saddle Mt. 3000 feet high. C. N.

aurea, N. (W. M. 2f.) staminate spike short peduncled, without bracts; pistillate spikes in threes, oblong, lax-flowered, sub-peduncled; spikelets exsertly peduncled, sub-approximate, bracted: fruit obovate or pear-form, obtuse, nerved, sub-ventricose, entire at the orifice, longer than the ovate, acute or short-mucronate scale. 6 i. Wet. This is Schweinitz's *pyriformis*. Dewey. C.

saxat'ilis, (A. 2f.) spikes oblong, erect; scales obtuse; pistillate spikes about in threes, alternate, upper ones ovate, sessile, lower ones sub-oblong, short peduncled, bracted: fruit ovate-obtuse or oblong-oval, sub-compressed, orifice entire, sub-pubescent, about equalling the ovate obtuse scale. This includes the *bigelowii* and *compacta*. V. W. Hemlock woods. Vermont.

compacta, Br. ( ) spikes distinct staminate one solitary, rarely in pairs, erect, oblong; pistillate ones sub-binate; peduncles erect, oblong, sub-dense-flowered; fruit ovate, convex, short beaked, 2-lobed at the mouth, longer than the black ovate acutish scale. 6 i. R.

2. *Staminate spikes two or more.*

acuta, (W. M. 2f.) staminate spikes numerous or one, oblong erect—upper one peduncled, and the rest sessile and short: pistillate spikes somewhat in threes, oblong, cylindric, often recurved, sessile, the lower one peduncled, often staminate at the apex, lax or dense-flowered: fruit oval, compressed, acutish, glabrous, with the aperture entire and protruded, a little shorter than the lance-oblong scale. 2 f. Var. *erecta*, Dewey, pistillate spikes two, erect, sessile, straight, short-cylindric. Var. *sparsiflora*, Dewey, pistillate spikes oblong, sub-sessile, lax, flowers scattered. S. C. T. P. N.

cespitosa, (O. M. 2f.) staminate spikes sometimes solitary, erect, oblong; lower ones sessile; pistillate spikes in threes, oblong-cylindric, somewhat dense-flowered, sessile, often staminate at the apex: fruit oval, and obovate, convex both sides, obtuse, glabrous, with the orifice entire and protruded, a little longer than the oblong obtuse scale: scale green with brown margins. 18 i. Var. *ramosa*, one, two, or three spikes branch off from the lower spike. S. C.

aquat'ilis, Wh. (M. 2f.) staminate spikes numerous, or one, erect; pistillate spikes short-peduncled, cylindric, about in threes, thick-clavate above, dense-flowered, sub-erect, sometimes staminate at the apex: fruit oval and sub-lens-form, glabrous, with the aperture entire and protruded, about equal to the ovate acutish scale. 2 f. Wet.

stricta, Gn. ((M. 2f.) staminate spikes somewhat in pairs, erect, oblong, about 3-sided; pistillate spikes about in threes, cylindric, erect, often staminate at the apex, acutish above: the lower one short-peduncled: fruit ovate, compressed, acutish, glabrous, with a protruded entire orifice, a little longer than the oblong acute scale. 15 i. Wet. Resembles *acuta*. C. N. T.

crinita, Lk. (O. M. 2f.) staminate spikes two (sometimes one) lax, often with scattered fruit; pistillate spikes rarely with three stigmas, somewhat in threes, oblong-cylindric, peduncled, nodding, tapering below,

often staminate above: fruit ovate, sub-inflated, somewhat 3-sided, shortly beaked, glabrous, with the orifice entire, about one-third as long as the oblong, linear, scabrous-awned scale. Var. *paleacea*, pistillate spikes mostly in fours, flagelliform, recurved: scales cuspidate. Var. *gynandra*, pistillate spikes pendulous; fruit about half as long as the scale. *S.*

II. STIGMAS THREE.

E. *Spikes androgynous.*

1. *Stamens at the summit.*

(Spike single.)

polytrichoides, M. (M. 2f.) spike terminal, oblong: fruit somewhat in fives, oblong, alternate, somewhat 3-sided, glabrous, emarginate, twice as long as the ovate obtuse (rarely mucronate) scale. 10 i. Wet. Is the *affinis* of the Arctic region a variety of this? C. W. T. N.

leucoglochin, Eh. (J. 2f.) spike about 4-flowered; staminate flower mostly solitary: fruit lanceolate, 3-sided-terete, much reflexed, hardly twice as long as the lance-oblong scale. 6 i. Wet.

fraseri, Sims. (A. 2f.) spike cylindric: fruit globe-ovate-triangular, entire at the orifice, striate, longer than the oblong scale. 1 f.

ursina, Dewey. spike single, staminate below, globose dense-flowered: fruit ovate, lenticular, compressed, smooth, a little longer than the round-ovate scale. 3 i. A.

(Spikes several.)

ovata, Rudge. (Canada.) spikes in fours and fives, ovate, dense-flowered, peduncled, pendulous, bracted: fruit ovate, compressed, acuminate, bifid, equal to the ovate, acute scale. C.

(One radical peduncle, or more, single-spiked.)

wildenowii, Sh. (W. J. 2f.) stems 1 to 3 from the same root: one spike staminate above, ovate at the base: fruit 3 to 6, globe-ovate, beaked, sub-inflated, somewhat 3-sided: scales ovate, acute, inferior, filiform, very long, much longer than the spike—sometimes the staminate spike is distinct. 10 i. Dry woods. *S.* P. Y.

pedunculata, M. (Ap. 2f.) spikes about in fives, 3-cornered, distant, long-peduncled: fruit obovate, 3-sided, recurved at the apex, commonly glabrous, a little longer than the oblong or obovate, mucronate scale. 6 i. Woods. T. N.

2. *Stamens at the base of the spikes.*

squarrosa, (2f.) spikes one, two, or three, oblong-cylindric: fruit imbricate, ovate with a long beak, 2-toothed, spreading horizontally, glabrous and sub-squarrose, longer than the lanceolate scale. Var. *typhinoides*, (Dewey) spike long-cylindric, tapering above, mostly in pairs, often approximate. *S.* C. P. T. M.

atrata, (A. 2f.) spikes somewhat in fours, oblong-ovate, somewhat nodding, terminal one androgynus, staminate below; upper ones crowded, sessile: lower ones somewhat distant, peduncled, round-oval, compressed, glabrous, short-beaked, with a 2-lipped aperture, a little shorter than the oblong, acutish, black scale. 1 f. *S.*

F. *Terminal spike androgynous, pistillate at the summit: the others wholly pistillate.*

virescens, M. (green sedge. M. 2f.) spikes in threes, oblong, erect, alternate; upper one peduncled, beneath staminate; the rest bearing fruit, sub-sessile, bracted: fruit ovate, obtuse, ribbed, pubescent, nearly equal or exceeding the ovate, pubescent, mucronate scale. 20 i. Wet upland. Var. *costata*, has its fruit strongly ribbed, and its outer sheaths purplish-brown—leaves more numerous and larger. C. P. N.

carltonia, Dewey. spikes in threes, ovate, sessile, approximate; upper ones androgynous, lower ones staminate: fruit ovate, acutish, plano-convex, smooth, entire at the mouth, equalling the ovate acutish scale. 12 i. A.

arctica, Dewey. spikes sub-ternate, ovate-cylindric sessile: lower one peduncled, bracted, upper one staminate below: fruit ovate, plano-convex, obtuse, very short-beaked, entire at the mouth, a little longer than the ovate obtuse scale. 8 i. A.

hirsuta, W. (W. M. 2f.) spikes in threes, oblong, alternate, erect; upper one short-peduncled and staminate below; the rest sub-sessile, leafy-bracted; all approximate, dense-flowered: fruit 3-sided-ovate, nerved, obtuse, entire at the aperture, about equal to the ovate, acuminate, glabrous scale. Var. *pedunculata*, T. has oblong-cylindric, peduncled spikes, and slightly pubescent leaves. *S.* P. Y. C. T. N.

buxbaumii, Wh. (W. J. 2f.) spikes distinct or androgynous, about in fours; upper spike staminate, often androgynous, peduncled, clavate, fruit-bearing above; the rest fruit-bearing, oblong, somewhat remote, sessile, bracted, sometimes with but 2 stigmas: fruit oblong-ovate and obovate, obtuse, somewhat 3-sided, nerved, glabrous at the sub-entire orifice, equalling the oblong, mucronate scale. 18 i. Wet. *S.* P. C. N.

viridula, Mx. (1) (2f.) spikes about in threes, oval, sessile, approximate; terminal one androgynous, staminate below; lower ones axillary: fruit ovate, 3-sided, glabrous, acuminate, about equalling the ovate acuminate scale. 1 f. Damp. Hudson's Bay.

formosa, Dewey. (M. 2f.) spikes oblong, thick, one-sided, in fours, distant, exsertly peduncled, nodding; upper ones staminate below: fruit oblong, 3-sided, sub-inflated, acutish at both ends, with a sub-entire or 2-lobed orifice, twice as large as the ovate, acute scale. Yellowish green. 15 i. Wet. N.

gracillima, Sz. (2) (M. 2f.) spikes long, slender, distant, lax-flowered, in fours, exsertly peduncled; upper one staminate below: all bracted: fruit oblong, 3-sided, obtuse, with an oblique somewhat 2-lobed orifice, larger than the oblong, obtuse, short-awned scale. 20 i. Moist. T. O. N.

torreyana, Dewey not Sz. (3) (M. 2f.) fructiferous spikes somewhat in threes, oblong, with scattered flowers, remote, exsertly peduncled, sub-pendulous: fruit oblong, somewhat tapering at the base, 3-sided-inflated, nerved, acutish, short-beaked, with a 2-lobed orifice, about equal to the oblong, scabrous-awned scale. 18 i. N.

fuliginosa, Sh. (A. 2f.) spikes oblong, somewhat in fours; terminal one androgynous, staminate below; lower ones exsertly peduncled, nod-

(1) triceps, E. (2) digitalis, T. & Sz. (3) davisii, T.

ding: fruit oblong, mucronate, bifid at the apex, longer than the oblong scale. T.

vahlii, Schk. (M.) spikes sub-ternate, upper one androgynous, oblong, lower one staminate, the rest pistillate, ovate or oblong, sub-peduncled, short-bracted: fruit round-oval, somewhat 3-sided, entire at the mouth, greater than the ovate or oblong sub-acute scale. 6—10 i. R. A.

G. *Staminate spike simple.*

1. *Pistillate spikes sessile, or with enclosed peduncles.*

pubescens, M. (W. M. 2f.) spikes distinct; staminate spike 3-sided, sub-sessile; pistillate spikes in threes, oblong, sub-lax-flowered, erect, bracted. lower one peduncled: fruit ovate-3-sided, beaked, with a sub-entire orifice, pubescent, a little larger than the ovate-oblong, mucronate, keeled scale: leaves and culm pubescent. 18 i. Moist. C. P. N. T.

vestita, W. (M. 2f.) staminate spike is sometimes accompanied with a smaller one, cylindric-oblong, upper one elongated, peduncled: pistillate spikes in pairs, ovate-oblong, sessile, sub-approximate, bracted, sometimes staminate above: fruit ovate, oblong, somewhat 3-sided, nerved, short beaked, bifid, pubescent, a little longer than the ovate-oblong, acutish, sub-mucronate scale. 2 f. Wet. S. C. T. N.

varia, M. (O. Ap. 2f.) staminate spike erect, short or long; pistillate spikes in threes, ovate, sessile, sub-approximate, few-flowered: fruit oval-inflated or globe-3-sided, acuminate-beaked, bifid? rough-pubescent, about equal to the ovate, acuminate scale. 10 i. Dry woods. Var. *pedicellata*, (Dewey,) has the pistillate spikes short-peduncled, erect, and the lower bract leafy. Numerous variations in height, &c. are common to this plant. S.

marginata, M. (Ap. 2f.) staminate spike erect, peduncled, somewhat 3-sided; pistillate spikes in pairs, ovate, sub-sessile, sub-approximate, few-flowered: fruit globe-ovate, short-beaked, somewhat 2-toothed, tomentose, about equalling the ovate-acuminate, or oblong-mucronate scale. 15 i. Dry woods. S. C. B. N. T.

flava, (M. 2f.) spikes distinct; staminate spike somewhat 3-sided, from the same base with the pistillate, and short-peduncled; pistillate spikes in threes, ovate-oblong, approximate, peduncles inclosed: fruit ovate, densely imbricate, 2-toothed, ribbed, reflexed with a curved beak, larger than the lance-ovate scale. 18 i. Wet upland. P. W. C. M. B. N. T.

baldwinia, Dewey. spikes distinct; staminate, solitary, cylindric, with a 3-nerved bract; pistillate ones in twos or threes, 3-stigmas, ovate, roundish; upper ones sessile, extreme top ones often staminate, lower peduncle long, exsert; fruit ovate, 3-sided, sub-inflated, glabrous, nerved, long-beaked, 2-toothed, about twice as long as the ovate acutish scale. 1—2 f.

oederi, Eh. (M. 2f.) spikes distinct, or androgynous, or both; staminate spike erect; pistillate spikes about in fours, aggregated, sub-sessile, bracted, somewhat oblong: upper androgynous spike staminate above or below, or both: fruit sub-ovate-inflated, nerved, 2-toothed, with a subulate straitish beak, a little longer than the ovate scale. 8 i. Wet.

tentaculata, M. (O. M. 2f.) spikes distinct; staminate spike sub-sessile, bracted; pistillate spikes in pairs, or in threes, oblong, cylindrical, bracted; upper one sessile, the rest with short inclosed peduncles: fruit ovate, inflated, long-beaked, 2-toothed, nerved, glabrous, diverging, closely compressed, twice as long as the small, ovate, rough-mucronate scale. 18 i. Wet, often forming bogs. *S.*

collinsii, N. (A. M. 2f.) spikes distinct; staminate spike erect; pistillate spikes somewhat in threes, sessile or with inclosed peduncles, distant, few-flowered: fruit subulate or somewhat inflated-lanceolate, long, beaked, reflex-spreading; glabrous with an entire orifice, more than thrice as long as the lanceolate scale. 1 f. This is Dewey's *michauxii*, which he yields to Nuttall, and adopts his name. It is the *subulata* of Mx. not of Muhlenberg. *S.*

folliculata, (O. M. 2f.) spikes distinct; staminate spike oblong, pedunculed; pistillate spikes somewhat in pairs: approximate, few-flowered, erect, sub-peduncled; the lower one sometimes remotely and exsertly peduncled: fruit conic-ovate, acuminate, beaked, 2-toothed, large, very glabrous, nerved, inflated, diverging, thrice as long as the ovate cuspidate scale. 20 i. Wet. *S.*

xanthophysa, Wh. (M. 2f.) spikes distinct; pistillate spikes thick, about in threes, distant, lax-flowered, ovate, peduncled, inclosed or exsert, leaf-bracted; fruit oblong, inflated, large, beaked, diverging, 2-forked at the orifice, longer than the lance-ovate, sub-awned scale. 2 to 5 f. Elevated wet ground. Var. *nana*, (Dewey,) has pistillate spikes in pairs, sub-approximate, and the fruit twice as long as the scale. 1. f Var. *minor*, is like the last, but is still smaller, and has the pistillate spikes aggregated. P. N.

bupulina, M. (O. M. 2f.) staminate spike erect, slender, sub-sessile; pistillate spikes in threes and fours, ovate-oblong, very thick, or oblong-cylindric, short-peduncled, erect, dense-flowered, approximate; lower one exsertly peduncled and sometimes distant: fruit ovate conic, inflated, long and conically beaked, bicuspidate, nerved, glabrous, about thrice as long as the lance-ovate, acuminate scale. 3 f. Wet. Var. *polystachia*, T. has the pistillate spikes in fives, long cylindric; lower one remote and long-peduncled *S.*

davisii, Dewey. (M. 2f.) spikes distinct; staminate spike sessile, short; pistillate spikes in pairs or in threes, approximating the staminate, ovate, sessile, few-flowered; often a radical one long peduncled: fruit globe-3-sided, tapering at the base, beaked, pubescent, with an oblique aperture, about equalling the ovate scale: culm decumbent. 8 i. Dry hills and woods. N.

nigro-marginata, Sz. (M. 2f.) spikes distinct; staminate spike sessile; pistillate spikes in pairs, ovate, sessile, closely approximating the staminate; culms (or peduncles) radical, long, somewhat in threes arising from the same root: fruit ovate, somewhat 3-sided, conic-beaked, 2-toothed, pubescent, equalling the ovate acutish scale. Scales dark drown, with green keels. Hills. 6. i.

collecta, Dewey. (A. M. 2f.) staminate spike erect, lax-imbricate, slender, sub-peduncled; pistillate spikes somewhat in threes, ovate, few-flowered, bracted; lower one short-peduncled: fruit ovate, beaked, somewhat 2-toothed and pubescent, a little longer than the ovate, acute scale. 15 i. In small bogs in mountain swamps.

supina, spikes distinct, staminate one solitary, pistillate ones some-

what in pairs, roundish, sub-sessile, approximate, smooth with a 2-lobed mouth about equalling the ovate scale. 6 i. A.

schkuhrii, W. spikes distinct, staminate one solitary, pistillate one subbinate, sessile, approximate roundish, small flowered: fruit obovate, short beaked, globe-3-sided, scarcely equalling the acute ovate scale. A.

parryana, spikes distinct: staminate one solitary, erect, cylindric; pistillate ones in twos or threes, oblong, cylindric, dense flowered erect; lower one peduncled, bracted: fruit, obovate, flat, convex, obtuse-smooth, scarcely beaked, a little longer than the ovate acute or muronate scale. 18 i. A.

2. *Pistillate spikes exsertly peduncled.*

plantaginea, Lk. (W. Ap. 2ſ.) staminate spike erect, peduncled: pistillate spkes somewhat in fours, oblong, with flowers somewhat scattered, erect, remote, exsertly peduncled: fruit oblong, oval-3-sided, sub-cuneiform, tapering at both ends, curved back at the apex, entire at the orifice, longer than the ovate-cuspidate scale: leaves very broad, ensiform. Stem 3-sided; sheathes reddish-brown towards the base; leaves radical, green through the winter. Often mistaken for the next species. 18 i. *S.* N. T.

anceps, Sh. (O. M. 2ſ.) spikes distinct: staminate spikes oblong, short-peduncled; pistillate spikes somewhat in threes, sub-filiform, erect, alternate, with scattered flowers: peduncle 2-edged: upper spike sessile, and the rest somewhat remotely and exsertly peduncled: fruit oval-inflated, elongated at the base, tapering at the apex, alternate, somewhat 3-sided, glabrous, striate, curved back at the membranaceous or entire orifice, a little longer than the oblong, mucronate or ovate, acute scale. Stem acutely triangular and often 2-edged above. Woods. 1 f. *S.*

alba, Haenke. (W. 2ſ.) staminate spike peduncled; pistillate ones in pairs, about 5-flowered: bracts sheathing, membranaceous, hyaline: fruit globe-ovate, striate, beaked, obliquely truncate. 10 i. Var. *setifolia*, (Dewey,) has bristle-form, slender, somewhat stiffly-erect leaves, till near maturity. Rocky soil. Pownal, Vt., and Goat Island at Niagara Falls. T. N.

oligocarpa, Sh. (M.) spikes distinct; staminate spike without bracts; pistillate spikes in threes, somewhat 5-flowered, oblong, distant, peduncles long and lax: fruit ovate-3-sided, alternate, glabrous, nerved, curved back and short-beaked at the apex, entire at the orifice a little longer than the ovate scale. 1 f. Woods and hills. Var. *van-vleckii*, Sz. has the spikes longer, peduncles shorter, fruit more remote and smaller, with scales half as long. T. N.

conoidea, Sh. (1) (M. 2ſ.) spikes distinct; staminate spike oblong, peduncled; pistillate spikes in pairs or in threes, oblong, remote, erect, sub-dense-flowered, bracted; upper one sub-sessile: fruit oblong, obtusish, glabrous, nerved, somewhat diverging with an entire orifice, a little longer than the ovate subulate scale. Dewey says, this is the granularoides of Sz. 1 f. Moist. *S.* C. P. T. N.

granularis, M. (W. M. 2ſ.) staminate spike erect, sub-peduncled; pistillate spikes somewhat in threes, cylindric, dense-flowered; upper

(1) granularoides, Sz.

ones sub-sessile, often approximate; lower ones exsertly pedunculed; fruit round-ovate, recurved at the apex and short-beaked, entire, nerved, hardly twice as long as the ovate, acuminate scale. 1 f. Wet upland. *S.* N. T.

scabrata, Sz. (M. 2f.) spikes distinct; staminate spike 3-sided, pedunculed; pistillate spikes somewhat in fives and remote, exsertly pedunculed, cylindric, alternate, sub-erect, furnished with long leafy bracts: fruit oblong-ovate, beaked, sub-ventricose and bifid, scabrous, longer than the scale: scale lance-ovate, acuminate, sub-ciliate at the margin, and scabrous at the apex. 18 i. Wet. P. T. N.

blanda, Dewey, (2) (M. 2f.) spikes distinct; staminate spike erect, pedunculed, 3-sided; pistillate spikes somewhat in threes, oblong, cylindric, with flowers scattered, alternate, bracted: upper one sub-sessile; lower one with a long 2-edged peduncle: fruit oval or obovate, somewhat 3-sided, nerved, recurved and entire at the apex, scarcely longer than the ovate, scabrous-mucronate scale. 1 f. Dry woods. N.

laxiflora, Lk. (M. 2f.) spikes distinct; staminate spikes oblong, slender, rarely bracted: pistillate spikes in threes, lax-flowered, remote, erect; upper one with a short and inclosed pedunole: lower one exsertly pedunculed: fruit ovate or oblong-ovate, sub-obtuse, glabrous, ventricose, nerved, somewhat 3-sided, with an entire orifice, a little longer than the ovate-mucronate and scabrous scale. 15 i. Damp woods and meadows. *S.* T. P. N.

ustulata, Wh. (A. 2f.) staminate spike oblong, recurved; pistillate spikes in pairs, oval, nodding: fruit ovate, beaked, acuminate, flattish both sides, black, 2-toothed at the orifice, about twice as long as the ovate scale. Labrador.

flexuosa, Sh. (M. 2f.) spikes distinct: staminate spike filiform; pistillate spikes in fours, filiform, flexuose, nodding: flowers scattered: peduncles long: fruit lance-oblong, somewhat 3-sided, alternate glabrous, beaked, bifid, hardly twice as long as the lance-ovate scale. Moist woods and meadows. 18 i. *S.* B. P. N.

vexusta, Dewey. ( ) spikes distinct; staminate one solitary cylindric; pistillate spikes in 3s, long-cylindric; peduncle sub-lax-flowered, long-peduncled and exsert: fruit cone-ovate, terete-3-sided, nerved, scabrous-pubescent, 2-toothed; about twice as long as the obtuse ovate scale. 1—2 f. *S.*

sylvatica, Hd. (M. 2f.) spikes distinct; staminate spike slender, short-peduncled; pistillate spikes somewhat in fours, filiform, with scattered flowers, remote, nodding, long-peduncled: fruit ovate, 3-sided, glabrous, sub-ventricose, somewhat long-beaked, bifid, scarcely exceeding the ovate, mucronate, membranaceous scale. Moist woods and meadows. 15 i. N.

digitalis, M. (W M. 2f.) spikes distinct; pistillate spikes in threes, alternate, lax-flowered, with long, filiform, nodding peduncles: fruit oval-3-sided, obtuse, nerved, glabrous, longer than the ovate, acute scale. 6 i. Wet. *S.* P.

castanea, Wh. (doubtful as an American,) spikes staminate and pistillate, distinct; pistillate spikes thickish, short, sub-dense-flowered: peduncles long-exsert, recurved, bracted, lax-sheathed, leafy, distant:

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(2) conoidea, M.

scales short; fruit oblong, slender, divergent, with a 1-lobed orifice: leaves hirsute.

washingtonia,* Dewey. (1) (A. J. 2f.) spikes distinct; staminate spike erect; pistillate spikes oblong, cylindric, sub-sessile, sub-remote, erect; flowers somewhat scattered: fruit oval, acute at both ends, compressed, short-beaked, glabrous, with one entire orifice, about equalling the oblong-ovate, acutish scale. 1 f. Damp. Found on the White Mts. N. H. near the summit of Mt. Washington, by Prof. Barratt.

halseyi, Dewey. (M. 2f.) staminate spike remote from the pistillate, accompanied with one or two smaller, arising near its base: pistillate spike solitary, (rarely another with stamens at its top,) interposed between it and the staminate one; oblong, cylindric, erect, sub-lax-flowered: fruit oval-ovate, short beaked, somewhat 3-sided, inflated, nerved, glabrous, oblique at the orifice, a little longer than the ovate, acutish scale. 18 i. Wet upland. N.

tetanica, Sh. (M. 2f.) staminate spike peduncled; pistillate spikes in pairs or in threes, remote; lower one long-peduncled: fruit obovate, recurved at the apex, entire at the orifice, longer than the ovate, obtuse scale. 10 i. Moist meadows. Dewey says, some mistake must have been made about this species; but it must remain as it is for farther examination. S. P. Y. W. N.

panicea, (2f.) spikes distinct, stigmas 3: staminate spike solitary; pistillate spikes somewhat in pairs: peduncle sub-exsert, remotish, lax-flowered; lower ones long-peduncled: fruit sub-globose, obtuse, entire at the mouth, a little larger than the acutish ovate scale. 12 i. B. Supposed by Dr. C. Pickering to have been introduced from Europe.

grayana, Dewey. (2f.) spikes distinct: staminate ones solitary, oblong: fruit bearing spikes with three stigmas to the style, somewhat in pairs, oblong cylindric sub-lax flowered, peduncle exsert: fruit ovate, oblong, sub-inflated, somewhat 3-sided, obtuse or acutish, mouth entire, longer than the obtuse oblong scale. S. Utica.

3. *Pistillate spikes peduncled and scarcely sheathed.*

miliacea, M. (M. 2f.) spikes distinct; staminate spike elongated, slender; pistillate spikes in threes, elongated, cylindric, somewhat slender; upper one sub-sessile, the rest peduncled, all bracted, and nodding: fruit ovate-3-sided, glabrous, somewhat beaked, sub-bifid or entire at the orifice, longer than the oblong, emarginate or obcordate, scabrous-awned scale. Wet. S. P. N.

umbellata, Sh. (M. 2f.) spikes distinct: staminate spike short, with a long peduncle; pistillate spikes somewhat in fours, one often sub-sessile and near the staminate, the rest sub-radical, exsertly peduncled, all ovate and sub-umbelled: fruit ovate, acute at both ends, beaked, shortly 2-toothed, pubescent, equalling the lance-ovate scale. 1 to 4 i. In small tufts on dry hills. Var. *vicina*, (Dewey,) has one sessile, ovate, pistillate spike at the base of the staminate, with two or three.

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*Prof. Dewey will excuse me for shortening some of his personal and geographical names by substituting genitives. In this case, I believe, the adjective may be properly made Washingtonia, &c.

(1) nigra, Sz.

radical peduncles, each bearing a pistillate spike, as in the common one. N. T.

miliaris, Mx. (A. 2f.) spikes distinct: staminate spike pallid, long peduncled; pistillate spike sessile, oval, fuscous: bracts setaceous, short: fruit sub-spherical, smooth. Canada marshes.

pallescens, (2f.) spikes peduncled, sub cylindric, nodding: bracts somewhat clasping, leafy and distant: fruit oval, very obtuse, terete: culm erect: staminate spike lanceolate, pistillate ones in threes. 1 f. N. T.

oakes'ii, Dewey. (A. J. 2f.) spikes distinct: staminate spike short-bracted, oblong, slender; pistillate spikes somewhat in pairs, ovate, distant, bracted; lower one sub-peduncled: fruit ovate, somewhat 3-sided, sub-inflated, nerved, short beaked, glabrous, entire at the orifice, a little longer than the lance-ovate scale. 1 f.

hystericina, W. (O. M. 2f.) spikes distinct; staminate spike 3-sided, bracted, peduncled; pistillate spikes somewhat in threes, alternate, somewhat distant, oblong, cylindric, bracted, nodding; upper one with an inclosed peduncle, the rest exsertly peduncled, and the lower one long-peduncled: fruit ovate, glabrous, inflated, somewhat 3-sided, beaked, nerved, with a 2-cleft orifice, twice as long as the oblong, emarginate, scabrous-mucronate scale. Plant yellowish-green, spikes becoming brown. 20 i. Wet. Often mistaken for the *tentaculata*. S.

limosa, (W. J. 2f.) spikes distinct; staminate spike without bracts; pistillate spikes somewhat in pairs, ovate or oblong, somewhat long-peduncled; flowers somewhat scattered, pendulous, remotish: fruit oval, compressed, very short-beaked, entire at the orifice, about equalling the ovate-cuspidate and lance-ovate or oblong scale. 1 f. Bracts with very short brownish sheaths. Var. *irrigua*, has sub-cylindric spikes, and long-acuminate, dark red pistillate scales. Var. *variflora*, has sub-linear spikes, loose-flowered, with sub-circinal, pistillate scales. Var. *livida*, has shorter peduncles, few-flowered, oblong-pistillate scale about equal to the fruit, and obtusish, with sub-ovate-oblong fruit, and sub-incurved leaves. Var. *oblonga*, (Dewey.) has spikes somewhat long-cylindric. Alpine. This species is the *lanticularis* of Mx. Dewey. N.

laxa, Wahl. ( ) spikes distinct: staminate one oblong, solitary; fruit bearing ones oblong, with peduncles exsert, pendulous, sub-distant; fruit oval 3-sided-depressed, short-beaked, entire at the mouth, equalling the ovate-oblong, obtuse scale. 6—10. A.

pseudo-cyperus, (O. M. 2f.) staminate and pistillate spikes distinct; staminate spike peduncled; pistillate spikes peduncled, cylindric, thick, pendulous: bracts somewhat clasping, long-leafy, sub-approximate: scales setaceous: fruit oblong, acuminate-beaked, reflexed, 3-sided, nerved, bicuspidate. 3 f. In clusters. Wet. S.

hitchcockii, Dewey. (A. M. 2f.) spikes distinct; staminate spike erect, peduncled; pistillate spikes, somewhat in threes, erect; flowers few and scattered; lower spike remote: fruit somewhat 3-sided-oval, inflated, alternate both sides, recurved at the apex, striate, with a short truncate beak and aperture, about equalling the oblong or ovate-mucronate scale. 20 i. Mountain woods. N.

serna, (M. 2f.) staminate spike erect: pistillate spikes in pairs, ovate-oblong, approximating, sub-peduncled; fruit oval, somewhat 3-sided-

acute, pubescent, a little shorter than the oblong-ovate, sub-mucronate scale. 6 i. Rocky hills.

H. *Staminate spikes two or more.*

trichocarpa, M. (M. 2f.) staminate spikes somewhat in threes, erect; lower ones sessile, rarely androgynous; pistillate spikes in threes, erect, long-cylindric, slender, sub-remote, sub-lax-flowered, exsertly peduncled, excepting that the lowest is nearly inclosed: fruit lance-ovate, sub-conic, inflated, nerved, beaked, 2-forked, dense pubescent, about twice as long as the lance-ovate scale. 2 f. Wet. Var. *turbinata*, (Dewey.) has the staminate spikes with oblong, mucronate, tawny scales: and the pistillate spikes with the upper ones nearly sessile, or with inclosed peduncles; and the fruit conic, inflated. *S.* N.

barrattii, T. (L. 2f.) staminate spikes somewhat in pairs; pistillate spikes somewhat in threes, oblong-cylindric, nodding, distant, upper one bearing stamens: fruit oblong, somewhat 3-sided, short-beaked, sub-scabrous, entire at the mouth, a little shorter than the lance-ovate, sub-obtuse scale. 1 f.

filiformis, Gn. (W. 2f.) spikes sub-sessile, oblong: bracts short-sheathed, leafy, remotish: capsules long-oval, villous, with a 2-forked beak; leaves convolute. Staminate spikes one or two lanceolate; scale of the fruit oblong, with a yellow nerve—pistillates with green nerved scale. 2 f. N. T.

ampullacea, Gn. (2f.) spikes short-peduncled, cylindric, thick, lax; staminate spikes numerous: bracts clasping, leafy, distant; scales lance olate: fruit sub-globose, inflated, setaceous-beaked, larger than the scale, diverging: culm obtuse angled: leaves narrowish, with incurved margins. Staminate spikes three or more. O. N. T?

vesicaria, (W. M. 2f.) staminate spikes distinct, somewhat in threes, erect; upper one peduncled, the rest sessile; pistillate spikes in pairs or in threes, cylindric, alternate, erect, denseflowered, upper ones sessile, lower ones sub-peduncled: fruit oblong-ovate, sub-terete, inflated, subulate-beaked, spreading, nerved, glabrous, bi-cuspidate, scarcely twice as long as the ovate-cuspidate scale. 2 f. Wet. N. T.?

bullata, Sh. (M 2f.) staminate and pistillate spikes distinct; staminate spikes in threes, longish, upper one peduncled, lower one bracted; pistillate spikes in pairs, exsertly peduncled, oblong, cylindrical, somewhat nodding: fruit ovate, globose, inflated, erect, glabrous, ribbed, with a sub-hispid 2-forked beak, twice as long as the lanceolate scale. 2 f. Wet bogs. Var. *cylindracea*, (Dewey.) has long peduncled staminate spikes, and long cylindrical pistillate spikes, sub-dense-flowered—fruit long beaked. *S.* O. N.

schweinitzia, Dewey. (J. 2f.) spikes distinct; staminate spikes in pairs, upper one long, slender, peduncled: pistillate spikes in fours, oblong, cylindric, sub-approximate, with inclosed peduncles, somewhat pendulous, with long leafy bracts: fruit ovate-oblong, tapering above, beaked, inflated, 2-forked, nerved, glabrous, longer than the lanceolate, subulate, sub-setaceous scale. 10 i. Wet, sandy.

retrorsa, Sz. (W. M. 2f.) spikes distinct; staminate spikes somewhat in threes, upper one long peduncled, slender, the rest short, small, often fruit-bearing at the base, sessile; pistillate spikes somewhat in fives, oblong, cylindric, approximating, sub-fascicled, with leafy bracts

and peduncles inclosed, lower one often very remote, with long inclosed peduncle: fruit ovate, inflated, beaked, 2-forked, nerved, reflexed: twice as long as the lanceolate scale. 2 f. In clusters. Wet. O. T.

pellita, M. (W. M. 2f.) staminate and pistillate spikes distinct; staminate spikes in pairs, oblong, lower one sessile and bracted; pistillate spikes in pairs or in threes, cylindric, erect: fruit ovate, short-beaked, bicuspidate, somewhat 3-sided, hairy, about equal to the lance-ovate, awned scale. 20 i. Wet. *S.* T. N.

lacustris, W. (W. M. 2f.) spikes distinct; staminate spikes somewhat in fours, erect, lower ones sessile; pistillate spikes in pairs or in threes, fruit oblong, cylindrical, erect, nerved, glabrous, a little longer than the lance-oblong scale. 3 f. Wet. *S.* N.

oligosperma, Mx. (2f.) staminate spikes many; pistillate spike one, globular, sessile: fruit turgidly ovate, largish, few, acute: leaves involute-rushlike. Canada.

longirostris, T. (W. M. 2f.) spikes distinct; staminate spikes in threes, short, upper one peduncled, middle one sessile, lower one peduncled and furnished with an ovate, cuspidate bract; pistillate spikes in pairs or in threes, cylindric, pendulous, with scattered flowers somewhat distant, with long exsert peduncles, bracted: fruit ovate, sub-globose, inflated, glabrous, long-beaked and bifid, a little longer than the lanceolate or ovate-cuspidate scale. 2 f. Woods on river banks. N.

Arctic region.

[These species having been found only in very high northern latitudes in America, they are set by themselves. Probably many of them may be found farther south. 7 spec. marked A. are wrongly inserted.]

1. Stigmas two.

dioica, (A. 2f.) spike single, simple, dioecious, rarely androgynous, staminate above, oblong; pistillate spike oblong or ovate, sub-dense-flowered: fruit oval-ovate, convex both sides, nerved, erectish, serrulately margined above, equalling the ovate scale. 9 i. Var. *duvallina*, has serrulate or hispid leaves. C.

remota, (A. M. 2f.) spikelets androgynous, staminate below, numerous, oblong-ovate, sub-sessile; lower ones distant with long, leafy, linear bracts beneath: fruit ovate, acuminate and bifid, or plano-convex and sub-bifid, a little longer than the lance-ovate scale. 18 i. Woods.

concolor, Br. (A. 2f.) staminate spike solitary; pistillate in pairs or in threes, erect, sub-sessile; fruit oval, mucronate, entire, smooth: scales all about the same colour, obtuse: culm smooth: bracts auricled.

II. Stigmas three.

mutica, Br. (A. 2f.) staminate spike solitary, with obtuse scales; pistillate spikes in threes, distant, erect: peduncles sub-exsert: fruit oval, not awned, smooth, longer than the ovate, mucronate scale: leaves and bracts flat.

affinis, Br. (A. 2f.) one spike androgynous, staminae above, few-flowered, lax: scales lanceolate, acute, the bottom one awned: leaves flat. 6 i.

attenuata, Br. (A. 2f.) one spike androgynus, staminate above, dense; pistillate ones few-flowered, about in threes: scales all obtuse.

filifolia, N. (A. 2f.) one spike androgynous, staminate above, sub-cylindric, acute: fruit sub-globose, entire at the orifice, with a retuse scale: leaves filiform, involute, subulate. 4 i. This has been seen by Nuttall in Missouri hills, as well as in the Arctic region.

media, Br. (A. 2f.) spikes androgynous, staminate below, in threes, sub-sessile, approximate: fruit ovate, beaked, very glabrous, longer than the obtusish, ovate scale.

misandra, Br. (A. 2f.) spikes somewhat in threes, oval, peduncled, pendulous, alternate or rarely sub-umbelled; terminal one androgynous below, or rarely all over staminate: fruit lanceolate, acuminate, 2-toothed, denticulate at the apex, longer than the oval, obtusish scale. 6 i.

richardsonii, Br. (A. 2f.) staminate spike solitary, peduncled, erect; pistillate spikes in pairs, sub-sessile, approximate, with enclosed peduncles: fruit ovate, obtuse, pubescent, with an ovate acute scale: culm very scabrous. 6 i.

concinna, Br. (A. 2f.) staminate spike sessile, cylindrical, oblong; pistillate spikes in threes, sub-sessile, approximating: fruit 3-sided-obovate, very short beaked, 2-toothed, hispid pubescent, about twice as long as the obovate scale. 4 i.

capillaris, (A. 2f.) staminate spike solitary, peduncled, small: pistillate spikes somewhat in threes with long exsert peduncles, nodding, oblong, with few scattered flowers: fruit oval, beaked, acuminate at both ends, oblique, at the orifice, scarcely twice as long as the ovate or oblong, obtuse, caducous scale. 6 i.

podocarpa, Br. (A. 2f.) staminate spike solitary; pistillate spikes in pairs, oblong, pendulous: fruit oval, very short-beaked, entire, smooth; seed pedicelled: lower leaves abbreviated.

aristata, Br. (A. 2f.) staminate spikes in pairs or many: pistillate spikes somewhat in threes, cylindric, distant, short-peduncled: fruit very glabrous, nerved, long-beaked, deeply bifid; scales awned: leaves villose beneath and on the sheaths.

Southern.

I. STIGMAS TWO.

muskingumensis, Sz. (J. 2f.) spike compound; spikelets androgynous, staminate below, oval-oblong, acutish at both ends, somewhat in eights, approximate: fruit lanceolate, compressed, nerved, winged, glabrous, acuminate, 2-toothed, more than twice as long as the lance-ovate scale. 30 i. Wet.

floridana, Sz. (2f.) spikes distinct; staminate spike solitary, sessile, small; pistillate spikes somewhat in fours, aggregated, ovate, sessile, bracted, lower one often sub-remote: fruit oval, somewhat tapering at the base, compressed, plano-convex, beaked, shortly bifid, equaling the ovate-oblong, scabrous-cuspidate scale. 6 i. Florida, Le Conte.—Sz. says the terminal spike is staminate above.

II. STIGMAS THREE.

dasycarpa, M. (M. 2f.) spikes distinct; staminate spike sub-sessile, small; pistillate spikes somewhat in threes, sub-approximate, oblong, alternate, lower ones sub-peduncled: fruit 3-sided-ovate, or oblong, villous, nerved, longer than the ovate acuminate scale. 1 f.

elliottii, T. (1) (Ap. 2f.) staminate spike solitary, long-bracted; pistillate spikes in threes, roundish, upper ones sessile, and the highest one staminate at the apex, the lowest one long-peduncled and nodding; fruit ovate, somewhat 3-sided, glabrous, with small punctures, nerved, long-beaked, 2-forked, much longer than the ovate, obtuse scale. 2 f. Wet sand.

glaucescens, E. (Ap. 2f.) staminate spike solitary, cylindrical, peduncled; pistillate spikes somewhat in threes, peduncled, cylindric, at length pendulous: fruit ovate, 3-sided, compressed, glaucous, beak-bifid, about equalling the ovate, emarginate, mucronate scale. 2 f. Wet sand.

verrucosa, M. (M. 2f.) staminate spikes many or one; pistillate spikes somewhat in fives, erect, cylindric, staminate above, axillary, the lower one exsertly peduncled; fruit ovate, compressed, somewhat 3-sided, short-bifid, shorter than the ovate, sub-emarginate, mucronate scale. 3 f.

cherokeen'sis, Sz. (W. 2f.) staminate spikes somewhat in threes, sub-cylindric, upper one larger and peduncled; pistillate spikes in fours, cylindric, sub-lax-flowered, distant, with long exsert peduncles, staminate above: fruit ovate, glabrous, somewhat 3-sided and compressed, nerved, long-beaked, bifid, a little larger than the ovate, long-acuminate scale. 1 f.

gigantea, Rudge. (Ap. 2f.) staminate spikes many or one; pistillate spikes in threes, cylindric, sub-lax-flowered, remote; upper one sessile, lower ones exsertly peduncled: fruit globe-ovate, conical, long-beaked, nerved, inflated, glabrous, bifid, spreading, twice as long as the oblong-ovate or lance-ovate scale. 2 f. Wet.

Remark. Students should be directed to examine the species of Carex, when they have passed flowering, and before the fruit is quite ripe. The best time is when the fruit has arrived to its full size, but the seed has not yet become hard.

20—10. CA'RICA. 38. 97.

Southern.

papaya, (O. g. Ju. ♄.) leaves palmate, 7-lobed, middle lobe sinuate; divisions oblong acute: staminate flowers corymbed. 20 f.

19—12. CARPI'NUS. 50. 99.

americana, W. (2) (hornbeam, blue beech. O. g. M. ♄.) leaves oblong-ovate, acuminate, unequally serrate: scales of the strobile 3-parted, the middle divisions with a lateral tooth. 20—40 f. *S.*

17—1. CAR'THAMUS. 49. 54.

Exotic.

tinctorius, (false saffron, safflower. y. J. ☉.) leaves ovate, entire, serrate-aculeate. 1—2 f.

Carica. According to Linneus, because a native of Caria.

Carpinus. Celtic, *car*, wood, and *pin*, head, the wood being used for yokes.

Carthamus. From its Arabic name *gortom*, signifying to paint, on account of the fine color yielded by the flowers.

(1) castanea, E. (2) virginiana, Mx.

coerulius, (blue saffron. b. 2ℓ.) stem about 1-flowered: leaves lance-ovate, spine-toothed.

5—2. Ca'rum. 45. 60.

Exotic.

carui, (caraway. w. M. ♂.) stem branching; leaves with ventricose sheaths; partial involucre none. 2 f.

19—12. Ca'rya. 50. 94.

tomentosa, Mx. (1) (white-heart hickory. W. Ap. ♄.) leafets about 9, lance-oblong, acuminate, slightly serrate, pubescent beneath, scabrous: terminal one sub-petioled: aments filiform, tomentose: fruit sub-globose. smooth, pericarp very thick; nut somewhat 6-angled; putamen thick, hard; nucleus agreeably tasted. *S.* T. Y. P.

alba, L. (2) (shag-walnut, shag-bark hickory. O. M. ♄.) leafets about 7, long-petioled, lance-oblong, acuminate, sharply serrate, villose beneath: the terminal leafet sessile: ament filiform glabrous: fruit globose, a little depressed: nut compressed, oblique. *S.*

sulcata, W. (3) (shell-bark hickory. W. Ap. ♄.) leafets about 9, oblanceolate, acuminate, serrate, pubescent beneath; the terminal leafets sub-sessile, tapering to the base: fruit roundish, 4-keeled: nut sub-globose, a little compressed, smooth, long-mucronate. 60—80 f. *S.* P. T.

amara, Mx. (bitter-nut. O. Ap. ♄.) leafets about 9, ovate-oblong, acuminate, sharply serrate, glabrous both sides; the terminal leafet short-petioled: fruit sub-globose, with the sutures prominent above: nut smooth, sub-globose, mucronate; putamen easily broken; nucleus bitter. *S.*

porcina, Mx. (pig-nut, broom hickory. O. M. ♄.) leafets about 7, lanceolate, acuminate, serrate, glabrous both sides; terminal leafets subsessile: fruit pear-form or globose: nut smooth; putamen very thick and hard; nucleus small. Var. *obcorduta*, (4) has an obcordate nut. Var. *ficiformis*, has the fruit turbinate and nut oblong. 70—80 f. *S.*

Southern.

aquatica, Mx. (O. Ap. ♄.) leafets about 11, narrow, obliquely lanceolate, acuminate, sub-serrate, glabrous, sessile: fruit peduncled, ovate; sutures 4, prominent: nut roundish, compressed; putamen thin; nucleus bitter. 40—50 f.

myristicaeformis, Mx. (Ap. ♄.) leafets 5, ovate-lanceolute, acuminate, serrate, glabrous; terminal ones sessile: fruit oval, rugose, scabrous: nut oval, slightly acuminate, furrowed, very hard.

olivaeformis, W. (pecan-nut. W. Ap. ♄.) leafets numerous, (13—15.) lanceolate, sub-falcate, serrate; petioles not in pairs: fruit oblong, 4-sided: nut olive-shaped, smooth.

Carum. From Carias, where it is indigenous.

Carya. Gr. *karua*, the walnut, of *kara*, headlike, round, from the shape of the fruit.

(1) alba, W. (2) compressa, W. squamosa, Mx. arb. (3) laciniosa, Mx. arb. mucronata, Mx. (4) These two varieties are the species obcordata and glabra of W.

10—1. Cas'sia. 33. 93.

marilandica, (wild senna. W. y. Au. 2[.) somewhat glabrous: leaves in 8 pairs, lance-oblong, mucronate: flowers in axillary racemes, and in terminal panicles: legumes linear, curved. An excellent mild cathartic. Bw. River alluvion. 2—4 f. S. T.

chamæcrista, (cassia, partridge pea. W. y. Ju. ☉.) somewhat glabrous: leaves linear, in many pairs, the glands on the petioles sub-pedicelled: two of the petals spotted: legumes pubescent. A most elegant plant. 8—16 i. Dry sand, &c. 12 i. S. C. T. Y. P. B. D. Harper's ferry.

nictitans, (wild sensitive plant. W. y. Ju. ☉.) spreading, pubescent: leaves in many pairs, linear; glands of the petioles pedicelled; peduncles short, supra-axillary, 2 or 3-flowered: flowers pentandrous. The leaves of this species, and of the *chamæcrista*, possess a considerable degree of irritability. 12 i. S. Y. P. C. O. T. N.

fasciculata, (y. Ju. ☉.) somewhat glabrous: leaves at the summit in 9 pairs; gland sessile near the middle of the petiole: fascicles many-flowered, lateral: petals and stamens of the same color: legumes glabrous, ascending, arched. S. Y. P.

Exotic.

senna, (egyptian senna, false senna. y. Ju. ☉.) leaves in 6 pairs; petioles glandless: legume reniform.

Southern.

tora, W. (W. y. Ju. ☉.) glabrous: leaves in 3 pairs, obovate, ciliate: terminal ones largest; a subulate gland between the lower pair: peduncles few-flowered, axillary: legumes curved. 3 f.

occidentalis, W. (y. M. 2[. ♄.) glabrous; leaves in 5 pairs, ovate-lanceolate, acuminate, scabrous along the edges: peduncles clustered, few-flowered, axillary: legumes compressed, falcate. 12—18 i.

ligustrina, W. (y. Ju. Au. 2[. ♄.) pubescent: leaves in 7-pairs, lanceolate; exterior ones smallest: peduncles terminal, somewhat paniculate: legume oblong slightly falcate. 6 f.

linearis, Mx. (y. J. 2[.) glabrous: leaves in 5 or 6-pairs, ovate, acute: peduncles axillary, few-flowered: legume terete.

procumbens, W. (y. J. ☉.) leaves in many pairs, without glands: stem procumbent. Flowers small.

aspera, M. (W. L. S. ☉.) strigose, rough: leaves in many pairs, linear, lanceolate, ciliate: peduncles few-flowered, above the axils: stamens 9—7: 3 longer than the rest. 1—3 f.

19—12. Casta'nea. 50. 99.

vesca, Var. *americana*, (chesnut. g. J. ♄.) leaves lance oblong, sinuate-serrate, with the serratures mucronate, glabrous both sides. Large tree. 60 f. S. N. T. Y. C.

pumila, (chinquapin. g. J. ♄.) leaves oblong, acute, mucronate, ser-

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Cassia. an ancient name from Heb. *kasian*, to tear off, it being stripped off the tree, for market.

Castanea. from Castanea, a city of Thessaly, whence chesnuts were first brought, and hence they were called *kastanon*.

rate, with white down beneath. Small tree. *S.* P. M. D. Florida.

Southern.

nana, M. (1) (M. ♄.) leaves oval-lanceolate, rather obtuse, mucronately-serrate, shining on the upper surface, slightly tomentose beneath. 1—2 f.

13—2. CASTILLE'JA. 40. 36.

occidentalis, T & J. (W. 2[.) stem simple, pilose: leaves linear-lanceolate, narrowing towards the apex, minutely pubescent, entire, acutish: flowers spiked, sessile: corol scarcely exceeding the calyx: bracts 3-cleft; divisions erect.

Castilleja, EUCHROMA.

2—1. CATAL'PA. 40. 40.

cordifolia, Duham. (2) (M. w. & y. ♄.) leaves simple, cordate, entire, by threes: flowers in panicles. 40—50 f. *S.* O. P. C. Troy, cultivated.

19—1. CAULI'NIA. 15. 7.

flexilis, (water knot-grass. Au. ☺.) leaves in sixes, toothed at the apex, spreading. Immersed in ditches, &c. *S.* T. Y. P. C. N.

fragilis. (S. ☺.) leaves in threes or opposite, linear-subulate, recurved, aculeate-toothed, rigid. Immersed. *S.* P.

6—1. CAULOPHYL'LUM. 24. 78.

thalictroides, MX. (3) (poppoose root, false cohosh. p-y. Ap. 2[.) very glabrous: leaves more than decompound; leafets oval, the lower ones petioled and lobed, the end ones 3-lobed. Berries dark blue. Woody. 1 f. *S.* P. D. O. Canada.

5—1. CEANO'THUS. 43. 95.

americana, (New-Jersey tea. O. w. J. ♄.) leaves ovate, acuminate, serrate, 3-nerved, pubescent beneath: panicles axillary, long-peduncled, sub-corymbed. *S.* Var. *tardiflora*, leaves heart-ovate, downy beneath: panicle and elongated thyrse.

herbacea, R. (4) (M. 2[.) leaves oval, sub-serrulate, smooth: panicle thyroid, axillary and terminal. *S.*

ovalis, Bw. (5) (w. ♄.) leaves oval, with glandular serratures, 3-nerved; nerves pubescent beneath: panicle corymbose, abbreviated. Canada. Lake Champlain.

sanguinea, Ph. (W. w. M. ♄.) leaves obovate, serrate. pubescent be-

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Castilleja. In honor of Castillejo, a Spanish botanist.
Catalpa. The Indian name of this plant.
Caulinia. In honor of F. Cavolini, a Neapolitan botanist.
Caulophyllum. Gr. *kaulas*, a stem, and *phullon*, leaf. Its leaves are so terminated by the stalk, as to appear a mere continuation of a stem.
Ceanothus. Gr. *keanŏthos*, of Gr. *keo*, to prick, *anŏthĕn*, above, because it pricks at the extreme parts.
(1) alnifolia, N. (2) syringaefolia, Ph. Bignonia catalpa, W. (3) Leontice thalictroides, W. (4) perenis, Ph. (5) ovatus Dc.

neath: panicle axillary, compact, short-peduncled; pedicels aggregate. 3 f.

Southern.

microphylla, Mx. (w. Ju. ♄.) leaves very small, obovate, nearly entire, clustered, glabrous: racemes corymbose, terminal. 1—2 f.

serpyllifolia, N. ( ) branches filiform: leaves small, elliptic-ovate, serrulate, obtuse: petioles and nerves strigose beneath: panicles pedicelled, axillary, few-flowered; flowers conglomerate.

5—1. CELAS'TRUS. 43. 95.

scandens, W. (false bittersweet, staff tree, red root. O. y-w. J. ♄.) stem twining: leaves oblong, acuminate, serrate: racemes terminal and axillary. Retains its scarlet berries through the winter.

Southern.

bullata, W. (w. Ju. ♄.) unarmed: leaves ovate, acute, entire: panicle terminal. 20 f. Virginia.

5—1. CELO'SIA. 22. 30.

[Description omitted in the system of genera—it is to follow Queria.] Divisions of calyx 3—like a 5-petalled corol: stamens united at the base by a plaited nectary: capsule opening horizontally: style 2 or 3-cleft. 30.

cristata, (cockscomb. r. J.) leaves ovate, acuminate, stipules falcate: common peduncle striated: spike oblong, compressed. Exotic.

5—2. CEL'TIS. 53. 99.

occidentalis, W. (nettle tree. pompion berry. W. w. M. ♄.) leaves ovate, acuminate, equally serrate, except near the base; scabrous above: rough-haired beneath; fruit solitary. Var. *integrifolia*, leaves entire: bark of the tree not rimose. 20 f. *S.* T. N.

crassifolia, W. (hag-berry, hoop ash. W. w. M. ♄.) leaves ovate, acuminate, unequally serrate, unequally cordate at the base, sub-coriaceous; peduncles about 2-flowered. 20 f. *S.* Y. T. P. B.

pumila, Ph. (1) (W. g. M. ♄.) leaves ovate, acuminate, equally serrate, unequal at the base, smoothish on both sides: the younger ones only pubescent: peduncles mostly 3-flowered: fruit solitary. Berries brown and glaucous. 6 f. *S.*

reticulata, T. & J. (W. ♄.) leaves broad-cordate, pubescent, sub-coriaceous, somewhat entire, obtusish, unequal at the base, papillose-scabrous above, reticulate, prominent veins beneath: peduncles 1-flowered.

3—1. CEN'CHRUS. 4. 10.

echinatus, L. (burr grass, hedge-hog grass. Ju. Au. ☉.) spike with the flowers approximated: involucre sub-globose, villose: culm compressed. Erect or procumbent. Sandy soil. 1—2 f. *S.* Var. *tribuloides*,

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Celastrus. Gr. *kélastros*, a tree of which pails were made, of *kela*, a dart.
Celosia. Gr. *kelos*, singed; from the appearance of the flowers.
Celtis. One of the names anciently given to the Lotus. Pliny.
Cenchrus. Gr. *kegchros*, millet, this plant resembling millet.
(1) occidentalis. Var. pumila, M.

W. (L.) spikes and margins of the sheaths white-pubescent. 1 f. *S.* P. Y. N. H. D.

17—3. CENTAU'REA. 49. 54.

Exotic.

cyanus, (blue bottle. b. w. r. J. ☉.) scales of the calyx serrate: leaves linear, entire; lower ones toothed. Naturalized. 2—3 f.

jacea, (knapweed. p. Ju. 2[.) leaves lanceolate, entire: radical ones subdentate: branches angular: calyx scarious. Naturalized.

benedicta, (blessed thistle. y. J. ☉.) scales of the involucre doubly armed with spines, woolly, bracted: leaves somewhat decurrent, toothed, spiny. Naturalised.

solstitialis, (St. Barnaby's thistle. y. Ju. ☉.) calyx palmate-spinose, solitary; spines straight: leaves hoary, lance-linear, decurrent, entire; radical ones lyrate. Naturalized.

nigra, L. (black knapweed. p. Au. 2[.) scales of the calyx ovate, with an erect capillary fringe: lower leaves lyrate-angular; upper ones ovate. Naturalized. 2 f.

calcitrapa, (☉.) scales of the calyx somewhat doubly spinous, sessile: leaves pinnatifid, linear, dentate; stem pilose.

centaurium, (great centaury. 2[.) leaves pinnate, glabrous; leafets sharply and doubly serrate, decurrent: calyx smooth.

scabiosa, (scabrous centaury. 2[.) leaves pinnatifid, roughish: divisions lanceolate, spreading, acute, pinnatifid at the base: calyx ciliate.

suaveolens, (yellow sultana. ☉.) leaves lyrate pinnatifid: calyx smooth.

moschata, (sweet sultana. ☉.) leaves slightly pinnatifid; lower divisions mostly entire: calyx smooth.

Southern.

americana, N. (W. ☉. or ♂.) stem somewhat branching, sulcate: leaves sessile; lower ones oblong-ovate, repand-toothed; upper ones lanceolate, acute: leafets of the calyx furnished with recurved pinnate appendages: peduncles thick at the apex. 4—6 f.

4—1. CENTAUREL'LA. 20. 34.

paniculata, M. (1) (screwstem. O. w. Ju. ☉.) stem sub-ramose, 4-sided, and becoming spirally twisted: peduncles opposite, lower ones ramose. Stem almost leafless. Damp. 5—6 i.

Southern.

verna, Mx. (2) (w. March. ☉.) stem simple, few-flowered, (1—3:) corol thrice as long as the calyx: style as long as the germ. 4—8 i.

aestivalis, Ph. (Ju. ☉.) stem simple: peduncles opposite, simple; divisions of the corol spatulate, abruptly acute, thrice as long as the calyx: style the length of the germ. 3—4 i.

Centaurea. From Chiron, the centaur, who used it to cure a wound caused by the poisoned arrows of Hercules.

Centaurella. A diminitive of Centaurea.

(1) autumnalis, Ph. Bartonia paniculata, Muh. tenella, Ph. Sagina virginica. W. Andrewsia paniculata. B.

(2) vernalis, Ph.

4—1. Centun'culus. 20. 34.

Southern.

lanceolatus, Mx. (bastard pimpernel. O. r. March. ⊕.) leaves lanceolate, oval and obovate, acute: flowers axillary, sessile: stem prostrate. 2—3 i.

minimus, N. (W. Ju.) stem simple or with a single branch, sub-angular: leaves alternate, spatulate-ovate, acute: flowers sub-sessile. Often pentandrous. 4—6 i.

4—1. Cephalan'thus. 48. 46.

occidentalis, L. (button bush, pond dog-wood. O. w. Ju. ♄.) leaves opposite and in threes, oval, acuminate. Inflorescence a round head. Swamps. Var. *pubescens*, has the leaves and branchlets pubescent. 4—8 f. *S.*

13—1. Ceran'thera. 42. 42.

Southern.

linearifolia, E. (r-w. S. ⊕.) stem glabrous, branching: leaves opposite, linear, sometimes clustered: racemes terminal: peduncles opposite. 12 i.

10—5. Ceras'tium. 22. 82.

vulgatum, L. (mouse-ear chick weed. O. w. Ap. ⊕.) hirsute, viscid, cespitose: leaves ovate: petals oblong, about equal to the calyx: flowers longer than the peduncle. 6—10 i. *S.*

viscosum, L. (sticky chick weed. W. w. J. ⊕.) hairy and viscid, spreading: leaves lance-oblong: flowers shorter than their pedicels: petals obovate, scarcely longer than the calyx. 4—6 i. *S.* P. Y. T. D. C. B.

semidecandrum, L. (w. M. ⊕.) hirsute, viscid: leaves ovate-oblong, acute: petals emarginate, shorter than the calyx: peduncles longer than the calyx: flowers pentandrous. 6—12 i. *S.* C. P.

hirsutum, M. (1) (W. w. M. ⊕.) very hairy: leaves oval, obtuse, connate: flowers clustered: petals 2-cleft, a little longer than the acute calyx. 4—8 i. *S.* K. P.

dichotomum, M. (W. w. J. ⊕.) leaves lanceolate: stem dichotomous: capsules erect, twice as long as the calyx. 9 i. P.

alpinum, L. (A. w. J. ♃.) leaves lance-oval: panicle dichotomous, few-flowered, bracted: capsule oblong, recurved. 6 i.

nutans, R. (2) (W. w. J. ⊕.) viscid, pubescent: stems erect, striate: leaves elongated, distant, oblong-linear, acute; radical ones spatulate: petals oblong, 2-cleft at the apex, longer than the calyx: peduncles at length much longer than the flower. 6—12 i. *S.* P. Y. R. O. D.

Centunculus. Lat. *centunculus*, a diminutive of *cento*, a threadbare garment, perhaps alluding to its worthlessness.

Cephalanthus. Gr. *kephalē*, head, and *anthos*, flower, alluding to the inflorescence.

Ceranthera. Gr. *keras*, horn, and *anthos*, flower; anthers bearing horns.

Cerastium. From Gr. *keras*, horn, an allusion to the cornute form of the capsule of many species.

(1) semidecandrum, Wr. (2) glutinosus, N. longepedunculatum, M.

oblongifolium, T. (W. w. J. 2[.) cespitose, pubescent: stems erect, terete leaves lanceolate-oblong, sub-acute, shorter than the joints: flowers terminal, shorter than their pedicels: petals obovate, bifid at the tip, twice as long as the calyx. 6—12 i. D. T.

tenuifolium, Ph. (1) (w. M. 2[.) very slender, pubescent, cespitose: leaves narrow-linear, longer than the internodes: petals obovate, emarginate, about thrice as long as the acute calyx. P. Y. Var. of *arvense*.

arvense, W. (W. w. J. 2[.) pubescent, cespitose: leaves lance-linear, obtuse, ciliate at the base, shorter than the internodes, petals obcordate, twice as long as the calyx; leafets of the calyx obtuse. 6 i. P. T. R.

pennsylvanicum, (2[.) pubescent: stem prostrate, leaves lance-linear, corol twice as long as the calyx: panicle long peduncled, dichotomous. In Pennsylvania. Resembles *arvense*, but the petals are narrow and the capsule globose. Is not this the same as tenuifolium?

bracteatum, R. ( ) pubescent: stem weak, cylindric: leaves oblong, sub-mucronate: flowers erect, dichotomous, with ovate acute bracts: petals nearly equalling the calyx: capsules erect, without nerves. Pennsylvania. Doubtful.

pubescens, Goldie. ( ) hirsute-pubescent, stem deflected, hairy: leaves lance-linear, with long spaces between: panicle terminal, somewhat 4-flowered: petals acutely emarginate, twice as long as the calyx. Canada. Doubtful.

elongatum, Ph. (W. A. 2[.) hirsute: leaves linear, divaricate, longer than the internodes: peduncles terminal, long, twice trichotomous: bracts opposite ovate: petals emarginate, twice as long as the acute calyx: capsule sub-globose. West of Rocky Mts.

Cerasus, PRUNUS.

20—2. CE'RATIO'LA. 18. 96.

Southern.

ericoides, W. (Au. ♄.) branchlets partly tomentose: leaves verticillate, narrow, linear, smooth. An evergreen shrub. 4—6 f.

3—2. CERATOCHLO'A. 4. 10.

unioloides, Pb. (Ju. ☉. or 2[.) panicle nodding, spreading; spikelets oblong-lanceolate, compressed, 6—8-flowered; florets acuminate, unarmed; sheaths bearded at the throat, the lower ones hairy: root fibrous. *S.*

19—12. CERATOPHYL'LUM. 15. 88.

demersum, W. (hornwort. W. Ju. 2[.) leaves 8 in a whorl, dichotomous

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Ceratiola. Gr. *keration*, little horn, alluding to the stigma.

Ceratochloa. Gr. *keras*, horn, and *chloë*, grass, referring to the appearance of the seed.

Ceratophyllum. Gr. *keras*, horn, and *phullon*, leaf, from the numerous horned divisions of the leaves.

(1) pennsylvanicum?

in two pairs, tooth-spined on the back: flowers axillary: fruit 3-spined. Y. P. C. F.

submersum, L. (W. 2ℓ.) leaves dichotomous in three pairs: fruit without spines. In water.

10—1. CER'CIS. 33. 93.

canadensis, (red-bud, judas tree. r. M. ♄.) leaves round-heart-form, acuminate, villose at the axils of the nerves: stipules minute: legumes short-stiped. Var. *pubescens*, has roundish, acute leaves, pubescent beneath. 15—30 f. S. Y. P. O. Canada. Sandusky, Ohio.

3—2. CERE'SIA. 4. 10.

Southern.

fluitans, P. (W. Oc. ☹?) stem creeping and ascending, generally floating: leaves scabrous: spikes numerous; glumes of the calyx white, dotted, somewhat hairy. 1—3 f. K.

Ceropegia, CYNANCHUM.

Chaerophyllum, URASPERMUM.

Chaetantherœ, SOLIDAGO.

6—3. CHAMAE'ROPS. 1. 11.

Southern.

serrula'ta, W. (Ju. ♄.) caudex creeping: stipes sharply serrate: fronds plaited palmate. Fronds 2 f.

hystrix, Fraz. (1) (Ju. ♄.) caudex creeping; stipes intermingled with long thorns: fronds plaited palmate. Fronds 4—5 f.

palmetto, W. (Ju. ♄.) caudex arborescent; stipes unarmed: spathes doubled: fronds plaited, palmate. Fronds 5—6 f. Florida.

17—4. CHAPTAL'IA. Vent. 49. 54.

Southern.

integrifolia, Mx. (2) (p-w. J. 2ℓ.) leaves oblong-lanceolate, and obovate, retrorsely denticulate, tomentose, and silvery beneath: scape naked, 1-flowered: flowers nodding. Pursh says the leaves are ovate-oblong, entire.

19—1. CHA'RA. 15. 6.

vulga'ris, W. (feather-beds. O. Ju. ☹.) stem and branches naked at the

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Cercis. Gr. *kerkis*, shuttle, from the resemblance in the shape of the legume.

Ceresia. In honor of the goddess Ceres.

Chamærops. Gr. *chamai*, on the ground, and *rōps*, a shrub, from its habits and size; or altered from Gr. *chamaidrōps*, dwarf-oak.

Chaptalia. In honor of M. Chaptal, a French naturalist and chemist.

Chara. Gr. *chairō*, to rejoice, because it is the delight of the water, or that it delights in water.

(1) Sabal hystrix, N.

(2) Tussilago, Mx. W. C. tomentosa, Ph. Perdicium semiflosculare, Wr.

base; branchlets terete; joints leafy: leaves oblong-subulate: bracts shorter than the berry. Odour disagreeable. Ponds and ditches mostly stagnant. *S.*

foliosa, W. (1) (W. Ju. ☺.) stem naked, papillose above: branchlets terete, leafy at the base and in the joints: leaves linear: bracts shorter than the berry. In clear water. *S.* P. N.

flex'ilis, W. (W. Au. ☺.) stem translucent, naked: branchlets jointless, leafless, compressed: berries lateral, naked. Ponds in Stockbridge. *S.* P. N.

humilis, Riddell. (g. Au. ☺.) stem calcareous, solitary and branching: branchlets 8—10 in a whorl, (involucre none,) about equalling the internodes (¼ of an inch): branchlets towards the summit bearing 1—2 thecæ. 2—3 i. Resembles *foliosa*. Old River.

sabulosa, Riddell. (g. Au. ☺.) stem with a few erect branches, sub-sulcate, papillose; branchlets 8—10 in a whorl without an involucre, half an inch long; internodes near an inch long: the calcareous incrustation on the stem unusually thick. Var. *spiralis*, stem spirally sulcate. 18 i. Dayton, O.

glabra, M. (Ju.) whole plant glabrous. *S.* P.

Southern.

capitata, E. (A.) stem and branches terete, glabrous; joints leafy: fruit in heads: bracts a little longer than the berry.

21—1. CHEILAN'THES. 55. 5.

vesti'ta, W. (lip-fern. 2ſ.) frond doubly pinnate, hairy both sides: leafets pinnatifid; divisions oblong, obtuse, entire: stipe and racemes rough haired. Small, on rocks. *S.* P. H.

Southern.

dealbata, Ph. (W. Ju. 2ſ.) frond triply pinnate: leafets oval, distinctly crenate or emarginate at the apex, whitish beneath.

14—2. CHEIRAN'THUS. 39. 63.

pal'lasii, Ph. (W. r. Ju. ♂.) stem simple, terete, somewhat glabrous: leaves glabrous, lanceolate-linear, tapering, repand-toothed.

capitatus, Douglass. (W.) roughish: leaves lance-linear, long-tapering at the base, leaves and stem strigose: flowers dense-corymbed: silique thrice as long as the pedicel. Rocky Mts. and west.

Exotic.

cheiri, (wall-flower. J. 2ſ.) leaves lanceolate, acute, glabrous: branches angled: stem somewhat of a woody texture.

fenestra'lis, (waved wall-flower. ♂.) leaves crowded together in a head, recurved, undulate: stem undivided.

Cheilanthes. From Gr. *cheilos*, lip, and *anthos*, flower, in allusion to the lip-like form of the involucre.

Cheiranthus. From Gr. *cheir*, the hand, and *anthos*, flower, relating to the form of its blossoms.

(1) squamosa, D.

an'nuus, (stock july-flower. Ju. ☉.) leaves lanceolate, sub-dentate, obtuse, hoary: silique cylindric, with an acute apex.

in'canus, (brompton stock, brompton queens. ♂.) leaves lanceolate, entire, obtuse, hoary: silique truncate, compressed at the apex: stem somewhat of a woody texture.

12—1. CHELIDO'NIUM. 27. 62.

Exotic.

majus, W. (celandine. y. M. 2[.) umbels axillary, peduncled: leaves alternate, pinnate, lobed. Naturalized.

Chelidonium, MECONOPSIS.

13—2. CHELO'NE. 40. 37.

glabra, (1) (snakehead. O. w. & r. Ju. 2[.) leaves opposite, lance-oblong, acuminate, serrate: spikes terminal, dense-flowered. Var. *alba*, leaves sub-sessile: flowers white. Var. *purpurea*, leaves short-petioled: flowers purple. Var. *lanceolata*, leaves lanceolate, acuminate, serrate, sessile, pubescent beneath: segments of the calyx oblong. Some authors make a species *obliqua*, which they say, has all the leaves opposite, and that the glabra has the lower leaves alternate—sed quere?—Damp.

Southern.

ly'oni, Ph. (p. Au. 2[.) glabrous, branching: leaves petioled, cordate-ovate, serrate: spikes terminal: flowers clustered.

latifolia, M. (r. Au.) glabrous: leaves broad, ovate and oval, serrate: abruptly acuminate, tapering at the base, petioled: flowers crowded. bracts and calyx ciliate. 2 f.

5—2. CHENOPO'DIUM. 12. 29.

rhomb'ifo'lium, M. (W. J. ☉.) leaves triangular-rhombic, acute, repandly toothed; racemes axillary, erect, leafless: bracts minute inflexed.

album, L. (green pig weed. O. g. Ju. ☉.) leaves rhomboid-ovate, erose, entire behind, the upper ones oblong, entire, seed smooth. Var. *viride*, leaves lance-rhomboid, sinuate-toothed: racemes ramose, subfoliaceous: stem very green. 2—4 f.

hybridum, L. (W. Ju. ☉.) leaves cordate, angular-toothed, acuminate: racemes branching, somewhat cymose, divaricate, leafless. Var. *simplex*, stem simple, 5-angled: leaves ovate, sub-cordate, coarsely repand-toothed: spike simple, terminal, naked. 2—3 f. *S. C. F. B. N.*

rubrum, L. (red pig weed, red goose foot. r-g. Ju. ☉.) leaves rhomboid-

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Chelidonium. Gr. *chelidon*, a swallow, this plant being in flower about the time that this bird appears.

Chelone. Gr. *chelone*, a tortoise, from the shape of the helmet of this genus.

Chenopodium. Gr. *chēn, (chēnos)* a goose, and *pous, (pōdos)* a foot, from the sinuate leaves of some species.

(1) obliqua, W.

triangular, deeply toothed and sinuate: racemes erect, compound, leafy. 2—3 f. C. O. B. T. N.

ambrosioides, L. (sweet pig weed. W. g. Ju. ☉.) leaves lanceolate, remotely toothed: racemes leafy, simple. Sweet scented. 1—2 f. *S.*

botrys, L. (oak-of-jerusalem. O. g. J. ☉.) leaves oblong, sinuate: racemes naked, many-cleft. Sweet scented. 1½ i. *S.*

anthelminticum, L. (wormseed. W. g. Au. 2ſ.) leaves oblong-lanceolate, toothed: spikes long, interrupted, leafless. Odour strong. A good anthelmintic, Bw. 12—24 i. *S.* Y. C. P. T. F.

glaucum, L. (2ſ.) leaves oblong, repand, glaucous beneath: spikes simple, naked, glomerate, axillary, terminal.

maritimum, L. (sea pigweed. W. L. g. Au. 2ſ.) leaves subulate, fleshy, semi-terete: flowers glomerate, axillary. 18—24 i. *S.* C. P. Y.

murāle, W. (Ju. ☉.) leaves ovate, unequally toothed, acute, shining: racemes branching, cymose, leafless. Y. C.

bonus-henricus, L. (english murcury. g. J. 2ſ.) leaves triangular, saggitate, entire: spikes compound, leafless, axillary and terminal, erect.

Exotic.

scoparium, (summer cypress.) leaves flat, lance-linear, margin ciliate: flowers glomerate, axillary.

Southern.

sub-spicatum, N. (W.) stem 4-angled: lower leaves hastate-ovate, bidentate, acute; upper ones sub-lanceolate: racemes glomerate, simple, terminal.

10—1. CHIMAPHILA. Ph. (1) 18. 51.

maculāta, L. (spotted winter-green. W. w. Ju. 2ſ.) leaves lanceolate, rounded at the base, remotely serrate, marked with long spots: scape 2 or 3-flowered: filaments woolly.

umbellāta, W. (prince's pine, bitter wintergreen. O. r-w. Ju. 2ſ.) leaves serrate, uniformly green, wedge-lanceolate, with an acute base: scape corymbed: filaments glabrous. Both species are tonics and diuretics, and resemble in their effects the Arbutus uva-ursi. Bw.

5—1. CHIOCOCCA. 45. 57.

Southern.

racemosa, W. (y-w. Ju. ♄.) leaves ovate-oblong, acute, flat: racemes axillary, peduncled, simple. Var. *floridana*, leaves ovate, scarcely acuminate: racemes simple, rather longer than the leave. Florida.

Chimaphila. Gr. *cheima*, winter, and *philos*, lover, from its sempervivent character.

Chiococca. Gr. *chion*, snow, and *kokkos*, berry, from the color of the fruit.

(1) Pyrola, L. The Chimaphila was long united to the Pyrola. Though they possess strong botanical affinities, they differ quite as much in habit, and sensible, as well as medicinal properties, as other genera of the natural order Ericae. Such divisions of the Linnean genera, where the "natural genus gives the characters," ought to be adopted. But divisions founded on any artificial character, however constant and decisive, injure the science.

2—1. Chionan'thus. 44. 37.

virginicus, W. (fringe tree, snow drop tree. W. w. M. ♄.) panicle terminal, trifid: peduncles 3-flowered: leaves acute. Var. *montanus*, leaves oval-lanceolate, coriaceous, glabrous: panicle dense: drupe oval. Var. *maritimus*, leaves obovate-lanceolate, membranaceous, pubescent: panicle very lax: drupe elliptic. Berries purplish blue. *S.* Y. P. M. H.

Chironia, Sabbatia.

3—2. Chlo'ris. 4. 10.

Southern.

petraea, Sw. (sea-side chloris. L. Ju. 2ℓ.) spikes by fours, digitate, straight, erect: flowers imbricate, glabrous, unawned; exterior valve of the calyx awned: stem compressed. Grows in soils exposed to the influence of salt water. Charleston, S. C.

secundus, Ph. (1) (W. 2ℓ.) glabrous, leaves linear: spike elongated, one-sided: spikelets solitary and reflexed after defloration: glumes of the calyx linear-lanceolate, very acute.

Chloris, Eleusine.

Chondrilla, Borkhausia.

Chondrocarpus, Hydrocotyle.

17—2. Chrysan'themum. (2) 49. 55.

leucan'themum, W (ox eyed daisy, white weed. O. w. J. 2ℓ.) leaves clasping, lanceolate, serrate, cut-toothed at the base: stem erect, branching. 12—20 i. *S.*

arcticum, W. (W. p-w. 2ℓ.) radical leaves 3-parted, gash-toothed; cauline ones wedge-form, 3-parted, obtuse. 12 i. *S.*

integrifolium, Rich. (w. & y. 2ℓ.) dwarfish: hairy; leaves linear, very entire: stem almost leafless, 1-flowered. A.

Exotic.

parthenium, (feverfew. y. & w.) leaves petioled, compound, flat: leafets ovate, gashed: peduncles branching, corymbed: stem erect.

carinatum, (three-colored daisy. r. w. Au. ☉.) leaves bipinnate, fleshy, glabrous: scale of the calyx carinate.

coronarium, (garden crysanthemum. p. w. r. Au. ☉.) leaves bipinnatifid, acute, broader outwards: stem branching.

11—1. Chrysoba'lanus. 36. 92.

Southern.

oblongifolius, Mx. (w. J. ♄.) leaves oblong-lanceolate, cuneate at the base, entire, glabrous, shining: flowers panicled: fruit oblong. "Mx.

Chionanthus. Gr. *chion*, snow, and *anthos*, flower, from the whiteness of the corol.

Chloris. Gr. *chloros*, green, from its color.

Chrysanthemum. Gr. *chrusos*, golden, and *anthos*, flower, from the yellow disk.

Chrysobalanus. Gr. *chrusos*, golden, and *balanos*, a plum or cherry, from the fruit.

(1) Cynosurus, Ph. (2) Pyrethium.

observes that it varies with the leaves woolly and hoary on the under surface." Elliot. 1—2 f.

17—1. CHRY'SOCO'MA. 49. 55.

virgata, N. (goldy locks. L. y.) herbaceous, smooth: leaves narrow, linear: stem branching; branches corymbed, fastigiate, virgate: scales of the calyx glutinous, appressed. 18 i. Y.

Southern.

nudata, Mx. (y. S. 2[.) radical leaves spatulate, lanceolate; cauline ones linear, scattered: corymb compound, fastigiate: calyx oblong, 3—4-flowered. 2 f.

graveolens, N. (1) (W. y. Cc. ♄.) leaves linear, 3-nerved, smooth, impunctate: branches whitish, tomentose: flowers corymbed, fastigiate, crowded; calyx angular, smooth, 5-flowered. 6—8 f.

nauseosa, Pursh. (W. y. Cc. 2[.) calyx pedunculed: calyx and leaves woolly pubescent: leaves narrow-linear: corymb somewhat lax: calyx lax, 5-flowered; inner scales divaricate, glabrous.

solidaginoides, N. (W. y. ♄.) rays oblong, ligulate, about 2 fertile ones: calyx very small: leaves linear-oblong, obtuse, entire, tapering below. A smooth shrub considerably branched.

12—12. CHRYSOCOP'TIS.* 26. 61.

occidentalis, N. (false gold-thread. y. 2[.) evergreen: leaves gash-3-lobed, or obsoletely 3-leaved, sub coriaceous: scape very short, about 3-flowered. Resembles Coptis trifolia.

Chrysoma, CHRYSOCOMA.

17—4. CHRY'SOGO'NUM. 49. 55.

Southern.

virginianum, W. (y. J. 2[.) low: woolly-villose: leaves oval dentate, narrowing into the petiole. 6—12 i.

17—2. CHRYSOP'SIS. (2) 49. 55.

mariana, W. (W. y. Au. 2[.) villose: leaves sessile, lance-oblong, tapering to the base, obtuse, glandular-toothed, lower ones petioled, serrate: peduncles axillary, corymbed, glandular-hairy. 12—18 i. *S.*

falcata, Ph. (y. S. 2[.) woolly: leaves sessile, linear, very acute: subfalcate, spreading, nerves hairy both sides: peduncles few, axillary corymbed: calyx and peduncles villose. 5—6 i. *S.*

graminifolia, Mx. (y. S. 2[.) silky, leaves lanceolate-linear, acute, entire, nerved: corymb compound: stem leafy towards the summit.

Chrysocoma. Gr. *chrusos*, golden, and *komē*, hair, from its appearance.

Chrysocoptis. Gr. *krusos*, gold, *optumai (opsis)* appearance; its appearance being gold yellow, or *optao*, to have a burning appearance.

Chrysogonum. Gr. *chrusos*, golden, and *gonē*, corner or joint. The bright yellow flowers are usually produced in the bends of the stems.

Chrysopsis. Gr. *chrusos*, golden, and *ops*, appearance, from its general color.

(1) dracunculoides, Ph. (2) Inula, L.

*Erroneously spelled, Chrysocopsis, at page 82; but better, as there spelled.

Var. *tenuifolia*, silky or woolly: leaves narrow-linear, shining: stem few-flowered: scales of the calyx glabrous. 2 f. *S.*

scabra, Ph. (W. y Oc. ♃. or ♂.) hispid-pilose, very scabrous: radical leaves oval, toothed, petioled; cauline ones cordate, ovate, sessile: flowers in panicles. 2—3 f. *S.*

argentea, P. (y. ♃.) silky: leaves lanceolate, 3-nerved, erect, entire, acute, zigzag: corymb sub-compound, erect: scales of the calyx flat, pubescent. 2 f. *S.*

ericoides, T. & J. (W. y.) stem branching below; branchlets elongated sub-simple, 1-flowered: leaves subulate, imbricate, appressed, hispid, and ciliate. 5—6 i.

cæspitosa, N. (y. Ju. ♃.) glabrous, small, with many stems, branching at the base, scape-like, 1-4-flowered: leaves rigid, lance-linear, acute, very entire: scales of the calyx oval, acute, scarious at the margin. R.

acaulis, N. (A. y. J. ♃.) caespitose, scabrous, almost stemless: leaves crowded, lance-oblong, about 8-nerved, very acute: scape nearly naked, about 1-flowered: divisions of the calyx lance-oblong. R.

alpina, N. (A. J. ♃. ♄.) sub-caespitose: small stems numerous, sub-lanceolate, 1-flowered: leaves small, oblong, acute, somewhat scabrous and imbricate, approximate: flowers peduncled: scales of the calyx acute.

coronopifolia, N. (Ju. ☉.) leaves gash-pinnate, divisions, with a tapering apex: calyx squarrose: plant somewhat glabrous, small, branching, sub-decumbent; branches 1-flowered. R.

Southern.

pinifolia, E. (y. S. Oc. ♃.) very glabrous: stem rigid: leaves linear, crowded, rigid: corymb large; scales of the involucre woolly at the summit. 18—24 i.

trichophylla, N. (y. Au. ♃.) hairy: leaves oblong, obtuse, very entire, somewhat clasping, scabrous on the margin: corymb simple; scales of the involucre very narrow, glandular. 12—18 i.

gossypina, Mx. (y. S. ♃.) woolly, hoary: leaves sessile, oblong, spatulate, obtuse, very entire: corymb fastigiate. 1—2 f.

dentata, E. (y. S. ♃.) lanuginous: leaves cuneate, obovate, obtuse, deeply toothed: upper ones oblong, oval, entire: corymb simple. 2 f.

divaricata, N. (y. S. ♃.) leaves linear-lanceolate, acute, serrate: stem hispid: panicle divaricate: peduncles and calyx viscid-pubescent. 2 f.

villosa, Ph. (1) (W. y. ♃.) hirsutely villous: leaves sessile, entire, linear-oblong, acute, ciliate below; margin scabrous; branches sub-corymbose: flowers fastigiate.

pilosa, N. (W. y. ☽.) soft-hairy: erect: leaves linear oblong, acute, sub-sessile, wedge-form at the base: flowers few, peduncled, sub-fastigiate: scales of the calyx linear acuminate. Found in Arkansas, by Dr. Pitcher.

hyssopifolia, N. (W. y. ♃.) glabrous: leaves scattered, short, linear: calyx sub-squarrose, with unequal divisions: branches fastigiate, 1-flowered, sub-corymbed. 9 i.

(1) Amellus, Ph.

Note. The following species of Aster, according to Nuttall, belong to this genus. A. *linarifolius*, L. *linifolius*, W. *dichotomus*, E. *albus*, N. *obovatus*, N. *humilis*, W. *amygdalinus*, Lb.

8—2. CHRY'SOSPLE'NIUM. 13. 84.

oppositifolium, (golden saxifrage, water-carpet. O. y-r. M. 2[.) leaves opposite, roundish, slightly crenate, tapering for a little distance to the petiole.* In rivulets, springs, &c.

alternifolium, L. (M. 2[.) leaves alternate. Perhaps only a variety of the first.

16—10. CI'CER. 32. 93.

arie'tinum, (chick-pea. ☉.) peduncle 1-flowered: seeds globose, gibbous: leafets serrate.

17—1. CICHO'RIUM. 49. 53.

in'tybus, L. (succory or endive. O. b. Ju. 2[.) flowers axillary, in pairs, sessile: leaves runcinate.

Exotic.

endivia, (garden endive. b. ♂.) peduncles axillary, in pairs; one long, 1-flowered, the other short, about 4-flowered: leaves oblong, dentieulate. Var. *crispum*, has fringed leaves and solitary flowers.

5—2. CICU'TA. 45. 60.

maculata, W. (O. w. Ju. 2[.) serratures of the leaves mucronate: petioles membranaceous, 2-lobed at the apex. Damp. 3—6 f. *S.*

bulbifera, W. (W. w. Au. 2[.) leaves ternate and biternate, bulbiferous: leafets linear and linear-lanceolate, remotely toothed. Wet. 2—3 f. T. W. C. O. F. D. R.

Exotic.

virosa, (water hemlock. 2[.) umbels opposite to the leaves; petioles margined, obtuse; leafets ternate, acutely serrate. Root containing a yellow juice.

12—4. CIMICIFU'GA. 26. 61.

palmata, Mx. (1) (A. Ju. 2[.) germs numerous (12—15:) panicle dichotomous, sub-corymbed: capsules very short, forming globular heads: leaves simple palmate. 2—3 f. West of Rocky Mts.

Chrysosplenium. Gr. *chrusos*, golden, and *splēn*, the spleen, it being supposed efficacious in the diseases of the spleen.

Cicer. Lat. *cicer*, a bean, or other kind of pulse; from Gr. *kikus*, force, on account of its presumed medical qualities.

Cichorium. The Greek name is *kichōrē*, probably from the old Egyptian word *chikourgeh*.

Cicuta. Lat. *ciceuta*, the hollow stem or internodes of plants, applied to this genus.

Cimicifuga. Lat. *cimex*, a bug, *fugo*, to drive; in allusion to its supposed quality.

(1) Actæa, Dc. Cimicifuga, E.

*Dr. Tully says our plant is E. americana and not oppositefolia.

Cimicifuga. ACTAEA.

17—2. CINERA'RIA. 49. 55.

heterophylla, Ph. (ash-wort. y. M. 2ℓ.) downy: radical leaves long-petioled, obovate-spatulate; also ovate, acutish and pinnatifid; cauline ones 2—3, linear, pinnatifid: flowers corymbed. 8 i. P.

canadensis, W. (W. 2ℓ.) villose: leaves pinnatifid, sub-villose; divisions sinuate: flowers paniculed.

Southern.

integrifolia, var. *minor*, (1) W. (mountain flea-wort. W. y. Au. 2ℓ.) woolly-tomentose: stem simple: lower leaves spatulate, sub-dentate; upper ones narrow-lanceolate, very entire, erect: flowers somewhat umbelled.

3—2. CIN'NA. (2) 4. 10.

arundinacea, W. (indian reed. W. Au. 2ℓ.) glabrous: panicle large, many-flowered, capillary: leaves broad-linear: one valve somewhat awned below at the apex. 2—5 f. S. V. W. Y. C. M. N. P. D. T.

2—1. CIRCAE'A. 48. 88.

lutetia'na, var. *canadensis*, L. (enchanters night shade. O. Ju. w. 2ℓ.) stem erect: leaves ovate, remotely toothed, opaque, smooth. 1—3 f. S.

alpina, L. (O. r-w. Au. 2ℓ.) stem branched, glabrous, often procumbent: leaves broad-cordate, membranaceous, acutely toothed, shining. 6—8 i. S.

Circium, CNICUS.

20†—15.† CISSAM'PELOS. 11. 77.

Southern.

pauciflora, N. (W. ♂.) herbaceous; very glabrous: leaves ovate-cordate, acute, 7—9-nerved: peduncles about 2-flowered and axillary; flowers perfect. Found in W. Florida by H. B. Croom, Esq. and Dr. Loomis.

Cissus, AMPELOPSIS.

12—1. CIS'TUS. (3) 20. 80.

canadensis, W. (rock rose, frost plant. O. y. J. 2ℓ.) without stipules, erect; leaves alternate, erect, linear-lanceolate, flat, tomentose beneath: racemes terminal, few-flowered; divisions of the calyx broad ovate-acuminate: capsules shorter than the calyx. At the foot of the Pine-rock, New-Haven, the barren plains produce great quantities

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Cineraria. Lat. *cineres*, ashes, from the appearance of the leaves.

Cinna. Gr. *kinna*, from *kein*, to burn, to heat, from a supposed quality of the original species.

Circaea. After the enchantress Circe, who is said to have used it in incantations.

Cissampelos. Gr. *kissos*, ivy, *ampetos*, grape vine; partaking of the nature of both.

Cistus. Gr. *kistos*, from *kiste*, a box or capsule. The capsules of the genus are box-like.

(1) Senecio tomentosus, Mx. (2) Agrostis, Lk. Ph.

(3) Helianthemum, Ju.

of this plant. In November and December of 1816, I saw hundreds of these plants sending out broad, thin, curved ice crystals about an inch in breadth, from near the roots. These were melted away by day, and renewed every morning, for more than 20 days in succession. 6—14 i. *S.*

ramuliflorum, (Mx. O. y. Ju. 2[.) without stipules, erect, powdery-tomentose: leaves alternate, oblong, acute, revolute at the margin, tomentose beneath: racemes short, about 3-flowered at the summit; divisions of the calyx orbicular, pulverulent: capsule globose, of the length of the calyx. 6—10 i. *S.*

rosmarinifolium, Ph. (y. Ju. 2[.) without stipules, simple, stiffly erect, hoary: leaves linear, revolute at the margin, hoary-tomentose beneath: little racemes axillary; flowers interruptedly crowded: divisions of the calyx ovate, acute: petals thrice as long as the calyx. The three last are probably synonyms.

corymbosum, Mx. (J. 2[.) without stipules, erect, ramose, minutely pubescent: leaves alternate, lanceolate, whitish downy beneath: corymb fastigiate, with numerous crowded flowers; divisions of the calyx ovate, acute: capsule scarcely longer than the calyx. 12 i. *S.* Y. W. N.

Southern.

carolinianum, Mx. (J. 2[.) without stipules, hirsute, erect: leaves alternate, oblong-ova , sub-denticulate: bottom ones obovate, hirsute on both sides: peduncles few, terminal, with the calyx very villose: divisions of the calyx oblong, acute, shorter than the petals.

12—1. CIT'RUS. 18. 70.

Exotic.

medeca, W. (lemon tree. w. J. ♄.) leaves ovate, acuminate, with linear wingless petioles. Var. *limon*, (lime tree) bears smaller fruit, which is almost round. 4—10 f.

aurantium, W. (orange tree. w. ♄.) leaves oval, acuminate, with the petioles winged or margined.

8—1. CLARK'IA. 17. 88.

Southern.

pulchella, Ph. (W. r. p. J. ☌.) stem erect, terete, somewhat branching above: leaves alternate, linear, entire, glabrous: flowers axillary towards the top of the stem, sub-sessile, large. 12—18 i.

5—1. CLAYTO'NIA. 13. 86.

virginica, L. (spring beauty. O. w. r. A. 2[.) leaves linear-lanceolate: petals obovate, retuse: leaves of the calyx somewhat acute: root tu-

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Citrus. Gr. *kitria*, the lemon or citron tree.

Clarkia. In honor of Gen. Clark, the companion of Lewis across the Rocky Mts.

Claytonia. In honor of John Clayton, author of Flora Virginica.

berous. Var. *latifolia*, T. (1) leaves ovate-lanceolate: leaves of the calyx obtuse. 6—12 i. *S.*

Southern.

lanceolata, Ph. (W. w. J. 2[.) leaves lanceolate; cauline ones ovate, sessile: raceme solitary, elongated: leaves of the calyx short, obtuse: petals wedge-form, 2-cleft: root tuberous.

alsinoides, Sims. (W. w. J. ⊙.) radical leaves spatulate-ovate; cauline ones ovate, distinct: racemes somewhat in pairs: flowers secund: bracts ovate and linear: petals emarginate: root fibrous.

perfoliata, Donn. (W. w. M ⊙.) radical leaves spatulate-rhomboid; cauline ones roundish, perfoliate: raceme sub-solitary, without bracts: root fibrous: petals emarginate.

12—13. CLE'MATIS. 26. 61.

virginica, (virgin's bower, traveller's joy. O. w. Ju. ♄.) climbing: leaves ternate; leafets ovate, sub cordate, gash-toothed and lobate: flowers panicled, dioecious. 15—20 f. *S.*

viorna, W. (leather flower. W. b. J. ♄.) climbing: leaves compound and decompound; leafets lance-oval, acute at both ends, trifid and entire: flowers solitary, bell-form: petals thick, leathery, acuminate. *S.* P.

ochroleuca, Hort. Kew. (2) (w. & y. J. 2[.) erect, simple, pubescent: leaves simple, ovate, entire; young ones and calyx silky: flower terminal, peduncled, solitary, nodding. 12 i. *S.* P. Y.

douglassii, Hk. (W.) stem erect, simple, one-flowered, flowers nodding: leaves pilose, twice tripinnatifid; divisions linear, obtusish. R.

wyethii, N. (J. 2[.) woolly-hairy: stem erect, simple, with a single nodding flower: leaves somewhat gash-bipinnate, with the divisions 3-gashed and lance-linear, tapering, rarely gash-acutish: flowers deep brown within. 14—18 i. R.

Exotic.

flammula, (sweet virgin's bower. ♄.) lower leaves lanciniate; upper ones simple, entire, lanceolate.

viticella, (purple virgin's bower. p. Ju. 2[.) climbing: leaves compound and decompound; leafets oval, sub-lobate, entire: petals obovate, spreading.

Southern.

cordata, Ph. (A. w. Ju. ♄.) climbing: leaves pinnate in two pairs; leafets cordate, lobed, acuminate, gash-toothed; teeth mucronate: racemes compound, elongated, many-flowered: stamens and petals about equal: flowers dioecious.

holoseri'cea, Ph. (w. ♄.) climbing: leaves divided, ternate; segments oblong-lanceolate, entire, pubescent on both sides: corymbs trichotomous, few-flowered, dioecious: petals linear, longer than the stamens. Whole plant silky.

vall'teri, Ph. (w. ♄.) climbing: leaves divided, pinnate; leafets in 3

Clematis. Gr. *klema*, a twig or runner, from its habit.

(1) C. caroliniana, Mx. spathulaefolia, Ph. spatulata, 4th Ed.

(2) sericea, Mx.

pairs, divaricate, petioled, cirrhose, linear-lanceolate, acute, entire, glaucous beneath: flowers solitary: petals elliptic, twice as long as the stamens.

crispa, W. (p. Ju. ♄.) climbing: leaves pinnate and ternate; leafets divaricate, ovate-lanceolate, acute, 3-lobed or entire: flowers solitary, bell-form; petals acuminate, revolute; margins undulate: awns of the seed subulate, naked.

cylindrica, Sims. (p-b. Ju. ♄.) climbing: leaves pinnate, decompound; leafets ovate, acute at each end, glabrous, simple, petioled: peduncles terminal, solitary: corol nodding, cylindrical: petals coriaceous, undulate: awns of the seed plumose.

reticulata, Wr. (W. p-r. Ju. ♄.) climbing: leaves pinnate in 4 pairs; leafets ovate, obtuse at each end, all entire, petioled, membranaceous, reticulately nerved on both sides: flowers solitary; petals coriaceous: awns of the seed plumose.

catesbyana, Ph. (♄.) climbing, pubescent: leaves biternate; leafets sub-cordate, 3-lobed: panicle divaricate-dichotomous; petals longer than the stamens. Flowers often dioecious.

ovata, Ph. (2f.) erect, simple: leaves ovate, gradually acute, short-petioled, glabrous, reticulate-nerved on both sides; lower ones sub-cordate: peduncle terminal, solitary, 1-flowered: plumose awns very long.

linearifoba, Dc. peduncles 1-flowered: petals very acute: leaves divided, pinnate, glabrous; leafets entire or 3-parted.

Clematis ATRAGENE.*

6—1. CLEO'ME. 25. 64.

pentaphylla, W. (w. Ju. ☉.) smoothish: leaves quinate and ternate; leafets entire, sub-serrulate: stamens inserted on the pedicel of the germ. 2 f. S. P.

dodecandria, W. (1) (false mustard. O. r-w. Ju. ☉.) viscid-pubescent: leaves ternate; leafets elliptical oblong: flowers generally dodecandrous. 1 f. S.

lutea, Hk. (y.) herbaceous sub-glabrous: leaves with 5 leafets; leafets lanceolate acute: silique lanceolate acuminate with the style glabrous, of the length of the stipe. R.

Southern.

serrulata, Ph. (W. p-w. Au. ☉.) glabrous: leaves ternate; leafets lanceolate, obsoletely serrulate: raceme elongated, bracts linear: stamens 6. 3—4 f.

pinnata, Ph. (W. y.) sub-pubescent: leaves pinnate; leafets lanceolate, attenuate below, sparingly dentate, upper ones confluent: flowers racemed, pedicelled, aggregated. 2 f.

cuneifolia, M. (w. Ju. ☉.) leaves simple, sub-sessile, obovate-cuneate, flowers hexandrous, in terminal clusters. 12—18 i.

mexica'na, Dc. (2) (W. y.) stem herbaceous, branching smooth, unarmed; branches obtusely angular: leaves terete, smooth, petioled; leafets lanceolate, acutish, entire: racemes corymbose, terminal.

Cleome. Gr. *kleiō*, to shut up, a name given it by Linneus. The original plant of this name resembled Sinapis. It is badly applied. (1) Polanisia graveolens. Raf. (2) Cleomella, Dc.

*Clematis is made to comprehend the Atragene by Decandolle.

crossa, N. (1) (W. y. J. ⊕) herbaceous, viscid, trifoliate, pod long, stiped, terminated by a permanent style. 8—12 i.

10—1. Cle'thra. 18. 51.

alnifolia, W. (spiked alder, sweet pepper bush, white bush. w. Au. ♄.) leaves wedge-obovate, acute, coarse-serrate, glabrous, both sides one colour: racemes spiked, simple, bracted, hoary-tomentose. 4—8 f. *S.* Y. C. P. F. B. N.

Southern.

tomentosa, Lk. (w. Au. ♄.) leaves cuneate-obovate, acute, sub-serrate, white tomentose beneath: racemes spiked, simple, bracted, villous tomentose. 2—4 f. New Orleans.

scabra, P. (w. Ju. ♄.) leaves broad-wedge-obovate, acute, coarse serrate, scabrous on both sides; serratures uncinate; racemes spiked, sub-panicled, bracted, sub-tomentose.

paniculata, W. (w. Ju. ♄.) leaves narrow-wedge-lanceolate, glabrous on both sides, acute, serrate; serratures acuminate: panicle terminal, racemose, white-tomentose.

acuminata, Mx. (A. w. Au. ♄.) leaves oval, acuminate, serrate, glabrous on both sides, glaucous beneath: racemes spiked, bracted, white-tomentose.

13—1. Clinopo'dium. 42. 42.

vulgare, W. (field thyme. O. r-w. Ju. 2ſ.) flowers in head-form whorls: bracts setaceous, hispid: leaves pilose above, remotely toothed: stem simple. 2 f.

Clintonia, Convallaria.

5—1. Clintu'nia. 29. 52.

elegans, Doug. (b. ⊕) procumbent, glabrous: stem angled: leaves sessile, ovate, 3-nerved: flowers axillary solitary: germ long-acuminate. The middle of the lower lip spotted with white. R.

17—1. Cni'cus. (2) 49. 54.

lanceolatus, L. (common thistle. O. p. J. ♂.) leaves decurrent, hispid, pinnatifid: divisions 2-lobed, divaricate, spinose: calyx ovate, with spider-web-like pubescence : scales lanceolate, spinose, spreading. 2—4 f. *S.*

altis'simus, L. (3) (tall thistle. O. w-p. Au. 2ſ.) leaves sessile, lanceoblong, scabrous, downy beneath, toothed, ciliate; radical ones pinnatifid; calyx bracted, ovate: scales lance-ovate, spinose, close-pressed. 3—8 f. *S.*

arven'sis, W. (4) (canada thistle. O. p. J. 2ſ.) leaves sessile, pinnatifid,

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Clethra. Gr. *klēthra*, the name for the alder, to which, in its leaves, this bears some resemblance.

Clinopodium. Gr. *klinē*, bed, and *podos*, foot, the whorls resembling the feet of the ancient truckle beds.

Clintonia. In honor of Gov. De Witt Clinton, the patron of Natural Science and public improvements.

Cnicus. Gr. *knizō*, to sting, alluding to the prickles.

(1) Cristatell, N.

(2) Carduus, L. in some of his works. Circium, Mx. (3) virginianus, Wr. repandum, Mx. (4) Carduus, S. Serratula, W.

ciliate, spinose: stem panicled: calyx ovate, mucronate: scales broad-lanceolate, close-pressed; margin woolly. 2—3 f.

horridulus, Mx. (1) (w-y. Ju. ♂.) tall: leaves sessile pinnatifid, acutely-gashed, very spinose: involucre terminal, 1-flowered, many-leaved; leafets very spinose, double: calyx unarmed. 2—3 f. *S.* Y. P. B.

muticus, Mx. (p. Ju. ♂.) leaves all pinnatifid, woolly beneath: divisions sub-lanceolate, acute, a little spinose: branches at the summit many, nakedish, 1-flowered: calyx globose: scales not spinose. 3—4 f. *S.* Y. P. D. N.

discolor, M. (O. p. Ju. ♂.) leaves sessile, pinnatifid, rough-haired, downy beneath; divisions 2-lobed, divaricate, spinose: calyx globose, with spider-web-like pubescence: scales ovate, close-pressed, with spreading spines at the tips. 3—5 f. *S.*

virginianus, W. (A. p. Ju. 2ſ.) stem simple: leaves sessile, lanceolate, hoary-tomentose beneath, remotely toothed; teeth spinous: flowers solitary: calyx globose; scales mucronate, appressed, carinate. 3—5 f. *S.*

odoratus, M. (2) (r. Ju. ♂.) woolly: stem 1 to 3-flowered: leaves clasping, lance-oblong, pinnatifid; segments irregularly lobed, ciliate, tipped with spines; colour similar both sides: calyx large, sub-globose, naked; scales close-pressed, lanceolate, acúminate, spinose. 1—2 f. P. Y. O. B. F. T.

glutinosus, Bw. (p. Au. ♂.) leaves pinnatifid, segments divaricate: calyx ovate; scales unarmed, glutinous. 4—6 f. B. T.

undulatus, N. (W. r-p.) leaves clasping, pinnatifid-sinuate, undulate; segments bifid, spiny; both sides tomentose: calyx sub-globose; scales lanceolate mucronate. 1—2 f. *S.*

pitcheri, T. (W.) cottony-pubescent: leaves very long-linear, pinnatifid (almost pinnate) sub-decurrent; radical ones sheathing the base of the stem; leafets very remote, linear, terminated with slender spines; terminal leafets broadest, sometimes branching: calyx globose; scales lanceolate, keeled, spinose; spines reflexed. First found by Dr. Zina Pitcher on the great sand banks of Lake Superior. My specimen was collected by Dr. E. James at Lake Huron, from which I made this description, not having seen Dr. Torrey's. It is 18 inches high. D.

glaber, N. (p. Ju. 2ſ.) leaves sessile, pinnatifid, all over smooth; segments spinose, acute, lower ones sub-decurrent: calyx ovate, glabrous; scales spineless, short-mucronate, obtusely carinate: stem much branched. 4—6 f. *S.* Y.

remotifolius, H. ( ) stem striate, with spider-web-down, chiefly below: leaves sessile half-clasping, deeply pinnatifid, lax-hairy above, wool hairy beneath, segments remote, lanceolate, with sinuate spinose lobes beneath: panicle few-flowered: scales of the calyx numerous, lax-linear, outer ones terminated with a spine. 3—5 f. R.

foliosus, H. ( ) stem erect, strong, striate, a little woolly: leaves erect, numerous above, longer than the flowers, lance-linear, irregularly tooth-sinuate with spines unequal, ciliate, scarcely hirsute above, spider-web downy beneath, pale: flowers large, glomerate, in the axils of the upper leaves: scales of the calyx linear close-pressed, egret very abundant. R.

(1) spinosissimus, Wr. Serratula discolor, Lk. (2) pumilus, N.

Southern.

repandus, Mx. (p. Ju. 2ℓ.) leaves amplexicaule, narrow, oblong, obtusely sub-sinuate, with numerous small spines, lanuginous: flowers solitary; scales of the calyx lanceolate, erect, spinous. 2 f.

5—2. Cni'dium. (1) 45. 60.

canadense, Mx. (w. Ju. 2ℓ.) stem angular, flexuous: leaves bipinnate; leafets many-parted; segments lanceolate. *S. C.*

atropurpureum, Lk. (p. J. 2ℓ.) radical leaves subcordate, simple, serrate; cauline ones ternate; leafets ovate, acute, sub-cordate; middle one petioled: partial involucre dimidiate, 3-leaved. Pursh says all the leaves are ternate. 2—3 f. *S. C. H. M.*

14—1. Cochlea'ria. 39. 63.

fenestrata, Br. stem simple: leaves ovate-deltoid; petiole broad. (arctic region.)

aquatica, Ea. (2) (water horse-radish. w. J. 2ℓ) leaves all pinnatifid; lower ones doubly and finely pinnatifid. Grows in Pittsfield, Mass, in water and wet grounds. Manifestly indigenous; but perhaps a variety of *armoracia*. Oswego river.

oblongifolia, Dc. ( ) silicles roundish, half as long as the pedicels: cauline leaves oblong entire, or toothed sinuate, sessile, uppermost ones short auricled. A.

anglica, Dc. ( ) silicles globe-oval, reticulate veined, half as long as the pedicels: radical leaves petioled ovate, entire; cauline ones oblong. A.

siliquosa, Dc. ( ) silicles lance-oblong, pointed with the permanent style, half as long as the pedicel: leaves oblong, entire, pubescent, tapering at the base. R.

danica, Dc. ( ) silicle sub-oval, of the length of the pedicel: leaves all petioled, deltoid. A.

spathulata, Schlecht. ( ) stellately pubescent: silicle globe-oval: leaves spatulate, coarsly toothed, acute, veiny. A.

Exotic.

officinalis, (scurvy-grass. w. J. 2ℓ.) radical leaves roundish; cauline ones oblong, sub-sinuate; silicles globose.

armoracia, (horse-radish. w. J. 2ℓ.) radical leaves lanceolate, crenate; cauline ones gashed. Naturalized.

Coelestina, Eupatorium.

19—3. Co'ix. 4. 10.

Exotic.

lachryma, (job's-tear. Ju. ☺.) culm semi-terete above: flowers naked: fruit ovate. 12—18 i.

Cnidium. Gr. *knidion*, the herb orache, which this plant resembles.

Cochlearia. Gr. *koch'ias*, snail, from the coiled form of the fruit of some species; or from the spoon shape of the leaves.

Coix. Gr. *koix*, a name applied to one of the palm leaved trees by Theophrastus: which it resembles.

(1) Selinum, L. (2) natans? Hk.

13—2. Collins'ia. N. 40. 37.

verna, (collinsia, tall pink. W. b. M. ☺.) leaves opposite and whorled, obtuse, entire: peduncles axillary, whorled, single-flowered. 12 i. *S.*

minima, N. (w & b. A. p. ☺.) leaves opposite, wedge-oblong, obtuse, sub-denticulate: calyx about half as long as the divisions of the corol. 1—2 i. R.

2—1 Collinso'nia. 42. 42.

canadensis, (horse-balm, rich-weed, archangel. O. y. Ju. 2[.) leaves heart-ovate, broad, glabrous: teeth of the calyx short-subulate: panicle terminal, compound. Var. *cordata*, leaves broad-cordate, upper ones entire. Var. *ovata*, leaves ovate, attenuate at the base, all serrate. Strong scented, not unpleasant. 1—3 f. *S.*

Southern.

scabra, Ph. (r-y. Au. 2[.) leaves small. ovate, sub-cordate, somewhat hairy: teeth of the calyx short, subulate: panicle terminal, simple: stem hairy, rough. 2—3 f.

ovalis, Ph. (y. Au. 2[.) leaves oblong-oval, acute at each end, glabrous: petioles long: teeth of the calyx short: panicle terminal, simple naked: stem glabrous.

tuberosa, Mx. (y. S. 2[.) leaves somewhat rhomboid-oval, acute at each end, glabrous: teeth of the calyx setaceous, longer than the tube: panicle compound, leafy; stem branching, somewhat hairy. 3—4 f.

anisata, Sims (A. y. Au. 2[.) leaves ovate, cordate, rugose, glabrous; nerves pubescent beneath: teeth of the calyx linear, nearly as long as the tube: panicle leafy, compound, pubescent: flowers tetrandrous: stem branching, bubescent.

punctata, E. (y. S. 2[.) leaves ovate-lanceolate, acuminate, acute at the base, pubescent and dotted beneath: panicle compound. 2—6 f.

verticillata, Bald. (M.) leaves verticillate, oval and acuminate. Var. *purpurascens*, flowers purplish; panicle short. 1 f.

5—1. Collo'mia. (1) 29. 45.

Southern.

linearis, Cav. (W. w-p. J. ☺.) sub-pubescent; leaves oblong-linear, sub-lanceolate; floral ones ovate-lanceolate, acute: bracts and calyx viscid. 4—12 i.

Colpodium, Agrostis.

16—10. Colute'a. 32. 93.

Exotic.

arborescens, (bladder senna. y. ♄.) leaves pinnate; leafets oval, retuse: banner gibbous, abbreviated.

Collinsia. in honor of Z. Collins. Esq. of Philadelphia.

Collinsonia. In honor of John Collinson, a patron of botany in England.

Collomia. Gr. *kolla*, gluten, referring to the seed.

Colutea. Gr. *koloutea*, a tree which dies if it is mutilated; from *koloueō*, to cut off.

(1) Taken from Phlox.

vesicaria, (senna herb. y. Ju.) leaves pinnate; leafets ovate: stem herbaceous, decumbent, villose: legumes orbicular, inflated.

Comandra, THEAIUM.

Comaropsis, DALIBARDA.

11—13. Co'MARUM. (1) 35. 92.

palustre, W. (marsh five-finger. W. p. Ju. 2f.) leafets in threes, fives and sevens, serrate: stipules growing to the petioles and sheathing: flowers axillary and terminal: stem rooting. An active astringent. 18 i. *S.* T. N. C.

3—1. COMMELI'NA. 6. 13.

angustifolia, Mx. (day-flower. b. Ju. 2f.) assurgent, weak, somewhat glabrous: leaves lance-linear, very acute, flat, glabrous: sheaths subciliate: bracts (or involucres) peduncled, solitary, short-cordate. 12 i. *S.* P. H.

virginica, L. (2) (W. b. Ju. 2f.) stiffly erect, all over pubescent: leaves long-lanceolate; sheaths red-bearded at the throat: bracts (or involucers) sub-sessile, lateral and terminal: calyx petal-like, 3-leaved, nearly equal. 2 f. *S.*

Southern.

communis, L. (W. b. Au. ☉.) corol unequal: leaves ovate-lanceolate, acute: stem creeping, glabrous. K.

19—3. COMPTO'NIA. 50. 99.

asplenifolia, A. (sweet fern. O. g. Ap. ♄.) leaves long-linear, alternately crenate-pinnatifid. 18—48 i. *S.* In rocky situations. Mild astringent and tonic. Bw.

5—2. Co'NIUM. 45. 60.

maculatum, L. (poison hemlock. O. w. Ju. 2f.) stem very branching, spotted: leaves very compound: seed striate. Var. *crispatulum*, leaves crispid: ultimate divisions acuminate, or terminated in a bristle. 2—4 f. *S.* Not probably introduced; for I have seen it in a wild state in numerous Alpine districts in New-Hampshire, Vermont, Massachusetts, &c.

Comarum. Gr. *komaros*, the ancient name for the strawberry trees, which the fruit of this plant resembles.

Commelina. In honor of the brothers Commelin, two Dutch botanists.

Comptonia. In honor of Bishop Henry Compton, a cultivator of exotics in England.

Conium. Gr. *koneion*, from *knos*, a cone or top; so called because it produced giddiness in those who drank it. It is the Greek name for poison hen lock.

(1) Potentilla, T. (2) Hirtella, Vahl.

6—1. Co'NOSTY'LIS. 10. 18.

americana, Ph. (1) (weed-grass. y. Ju. 2f.) corol woolly within: scape corymb-panicled: leaves grass-ensiform, glaucous: filaments equal. 12—18 i. *S.* Y.

13—2. CONRADIA. 40. 32.

fuschioides, N. (2f.) glabrous: leaves petioled, lanceolate, lyre-pinnatifid, lobes denticulate outside: calyx foliaceous, divisions exsert, denticulate. 4 f. Resembles Gerardia quercifolia.

6—1. CONVALLA'RIA. 11. 12.

1. *Corol deeply 4-parted, spreading: stamens 4: berry 2-celled. (Flowers in a terminal raceme.)* MAJÁNTHEMUM, D.

bifolia, L. (2) (dwarf solomon seal. O. w. J. 2f.) stem with two heart-oblong, sub-sessile, glabrous: leaves raceme simple, terminal: flowers tetrandrous. Var. *trifolia*, stem 3-leaved. 4—6 i.

2. *Corol 6-parted, spreading: filaments divergent, attached to the base of the segments. (Flowers in a terminal raceme.)* SMILACINA, D.

stellata, L. (W. w. M. 2f.) stem with alternate, clasping, oval-lanceolate leaves: raceme simple, terminal. 8—18 i. N. T. C.

trifolia, L. (W. w. J. 2f.) stem about 3-leaved: leaves alternate, ovate-lanceolate, contracted at the base: raceme simple, terminal, few-flowered. 6—10 i. D. P. T. N.

ciliata, D. (w. 2f.) stem arched: leaves alternate, sessile, ovate, ciliate: panicle terminal, crowded. *S.* Canada.

racemosa, L. (spiked solomon seal. O. y-w. M. 2f.) stem with alternate leaves: leaves sessile, oblong-oval, acuminate, nerved, pubescent: flowers in a terminal raceme-panicle. 18—24 i. *S.*

3. *Corol sub-campanulate, deeply 6-parted: style elongated: berry 2-celled, many-seeded.* DRACAENA, D. & W.

borea'lis, W. (wild lily of the valley, dragoness-plant. g. y. J. 2f.) sub-caulescent: leaves oval-obovate; margin ciliate: scape pubescent: umbel few-flowered, sub-corymbed, sometimes proliferous; pedicels naked, nodding. 6—10 i. T.

umbellata, MX. (A. w. Ju. 2f.) leaves radical, oblong-oval, with the margin and keel ciliate: scape pubescent: umbel terminal; pedicels bracteate. Torrey says, keel not ciliate: flowers greenish-yellow. 8—12 i. *S.*

4. *Corol 6-cleft, cylindric: filaments inserted on the upper part of the tube: berry 3-celled: cells 2-seeded. (Flowers axillary.)* POLYGONATUM, D.

multiflora, L. (giant solomon seal. W. w. Ju. 2f.) stem terete: leaves alternate, clasping, oblong-ovate: peduncles axillary, some of them many-flowered. 2—3 f. *S.*

Conostylis. Gr. *kōnos*, cone, and *stulos*, a style, from their form.
Conradia. Named in honor of S. W. Conrad, late Prof. Bot. Un. Phil.
Convallaria. Lat. *convallis*, a valley, its usual place of growth.
(1) Helonias tomentosa, M. (2) Smilacina canadensis, Ph.

biflora, Wr. (1) (g-y. J. 2ℓ.) stem terete, smooth: leaves alternate, sessile, elliptic-lanceolate, 3-nerved: peduncles axillary, solitary, few-flowered. 12—18 i. *S.* P. T.

pubescens, W. (O. w. M. 2ℓ.) stem teretish, furrowed: leaves alternate, clasping, ovate, pubescent beneath: peduncles axillary, about 2-flowered. 18 i. *S.*

canaliculata, W. (A. clasping solomon seal. w. Ju. 2ℓ.) stem channelled: leaves alternate, clasping, oblong, margin pubescent: peduncles axillary, about 2-flowered. *S.* B.

latifolia, (J. 2ℓ.) stem angled: leaves sessile, ovate, acuminate: peduncles 1 or many-flowered. 4 f. *S.* P. H.

hirta, Lk. (2ℓ.) stem angular, hispid: leaves alternate, somewhat clasping, ovate, abruptly acuminate: peduncles axillary, 3-flowered.

Southern.

maja'lis, W. (lily of the valley. W. A. w. J. 2ℓ.) scape naked, smooth; leaves oval-ovate Virginia. Cultivated.

5—1. CONVOLVULUS. 29. 44.

repens, L. (2) (field bind-weed. O. w. & r. J. 2ℓ.) twining: leaves sagittate, with the apex acute and the lobes truncate, entire (some obtuse:) bracts acute, longer than the calyx, and shorter than the middle of the corol: peduncle angled, exceeding the petiole. *S.*

arvensis, L. (3) (bind-weed. W. w. J. 2ℓ.) stem climbing or prostrate: leaves sagittate: lobes acute, spreading: peduncles about 1-flowered: bracts minute, acute. *S.* P. B.

panduratus, Mx. (mechoacan, wild potato vine, man of the earth. W. w. & r. Ju. 2ℓ.) twining, pubescent: leaves broad-cordate, entire or lobed, guitar-form: peduncles long: flowers fascicled: calyx glabrous, awnless: corol tubular-bell-form. A mild cathartic, and resembles rhubarb in its effects. Bw. Y. P. O. H. M.

spithameus, L. (4) (dwarf morning glory. W. w. J. 2ℓ.) erect: leaves oval, or oblong, sub-cordate, pubescent: peduncles 1-flowered, generally longer than the leaves. 9—12 i. *S.* D. P. T. B.

Exotic.

batatas, (sweet potatoe, carolina potatoe. w. Ju. 2ℓ.) creeping, tuberous: leaves cordate, hastate, angular-lobed, 5-nerved, smoothish: peduncles long: flowers fascicled: corol sub-campanulate. Cultivated.

tricolor, (3-colored bind-weed. Ju. ☉.) leaves lance-ovate, glabrous: stem declined: flowers solitary.

Southern.

purpureus, Ph. (5) (common morning glory. W. b. p. J. ☉.) pubescent: leaves cordate, entire: peduncles 2 to 5-flowered: pedicels nodding, thickened: divisions of the calyx lanceolate: capsules glabrous. Cultivated. Grows west of the Miss.

macrorhizus, Mx. (6) (W. w. J. 2ℓ.) pubescent: leaves cordate, entire

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Convolvulus. Lat. *convolos*, to twist together, from the twinings of the stalk.

(1) angustifolia, Ph. (2) sepium, W. L.

(3) sagittifolius, Mx. E. speciosus, Wr. (4) Calystegia tomentosa? Ph. C. stans? Mx. (5) Ipomea, Ph. (6) Ipomea jalapa, Ph. Ipomea, Mx. C. jalapa? L.

and lobed, rugose-plaited, downy beneath: peduncles 1 to 5-flowered: flowers sub-campanulate: root very thick.

tenellus, (1) (W. w. Ju. 2ſ.) stem prostrate: leaves elliptic, mucronate, sub-cordate; peduncles many-flowered, longer than the leaves: style 2-parted.

aquaticus, Wr. (2) (w. J. 2ſ.) stem prostrate: leaves oblong-ovate, nearly sessile: peduncles generally 3-flowered, three times as long as the leaves: style 2-parted.

obtusilobus, Mx. (y. & w. S. 2ſ.) stem prostrate: leaves thick, sinuate, lobed, emarginate: lobes rounded: peduncles 1-flowered.

catesbyanus, Ph. (p.) twining, tomentose: leaves oblong, sagittate, acuminate: peduncles 1-flowered, shorter than the leaves: bracts oval, obtuse, longer than the calyx.

paradoxa, Ph. (w.) prostrate, tomentose: leaves oblong, cordate-sagittate, acute: peduncles 1-flowered, longer than the leaves: bracts linear, remote from the flowers: calyx naked, glabrous, acuminate.

sherardi, Ph. (☉.) prostrate, pubescent: leaves elliptic, retuse at each end, mucronate: flowers solitary, nearly sessile.

tamnifolius, (b. S. ☉.) twining: leaves cordate, acuminate, hairy: flowers clustered.

17—2. CONY'ZA. 49. 55.

marylandica, Mx. (3) (marsh flea bane, ploughman's wort. p. Au. ☉.) herbaceous, pubescent: leaves sessile, broad-lanceolate, acute, serrate; serratures at the apex cartilaginous: corymbs terminal, fastigiate, condensed, almost leafless: scales of the calyx subulate-mucronate: florets short. 12—20 i. *S.* Y. P. B. F.

bifrons, W. (y. Ju. 2ſ.) sub-glutinous: leaves clasping, spatulate-oblong, acute, serrate: corymbs of the panicle glomerate.

Southern.

camphora'ta, Ph. (W. p. Au. 2ſ.) herbaceous, sub-pubescent: leaves petioled, ovate-lanceolate, very acute, somewhat repand denticulate, dentures glandular: corymbs terminal and axillary, shorter than the leaves: scales of the calyx acute, about equal to the florets. Marylandica? 3 f. K.

angustifolia, N. ( ) herbaceous, dusty-pubescent: leaves lance-linear, sub-denticulate, acute, tapering at the base: flowers dense, corymbed. South Carolina.

[*Conyza*, PTEROCAULON.

12—13. COP'TIS. 26. 61.

trifolia, Sy. (4) (gold thread. O. w. M. 2ſ.) scape 1-flowered: leaves ternate. Roots long, filiform, golden yellow. Tonic bitter. Bw. 2—4 i. *S.*

Conyza. Gr. *konis*, dust, its powder being used to kill fleas: or from Gr. *konops*, a gnat.

Coptis. Gr. *koptō*, to cut off, from the leaves appearing as if cut.

(1) trichosanthes, Mx. Ph. (2) trichosanthes, Mx. patens, Ph. (3) camphorata, M. (4) Helleborus trifolius, L.

asplenifolia, Sy. (W. 2ſ.) leaves biternate; leafets sub-pinnatifid: scape 2-flowered. R.

18—1. Co'RALLORHI'ZA. (1) 7. 21.

verna, T. (2) (coral root. w-y. M. 2ſ.) petals linear-lanceolate, spreading: lip oblong without spots, bi-dentate at the base, apex recurved, ovate; spur obsolete, adnate. 5—6 i.

odontorhiza, W. (coral teeth, dragon's claw. W. p. w. Ju. 2ſ.) lip entire, oval, obtuse; margin undulate or a little crenate; spur obsolete, adnate to the germ: capsule sub-globose. T. Rare. 6—12 i. *S.*

multiflora, T. (2) (p. Ju.) scape many-flowered, (15—30:) lip cuneate-oval, 3-parted, recurved, spotted: spur conspicuous, adnate. 12—20 i. T. D.

Corallorhiza, APLECTRUM.

17—3. COREOP'SIS. 49. 55.

1. *Leaves opposite and undivided.*

tinctoria, N. (tickweed. r. M.) small, smooth: stem simple: leaves linear, entire; axils leafy: flowers few, long-peduncled, dichotomous, terminal; rays unequally 3-toothed. 1 f. *S.* P. Y.

2. *Leaves opposite, divided.*

trichosperma, Mx. (y. Ju. ☉.) glabrous; dichotomous: leaves opposite, quinate-pinnate, lanceolate, serrate: outer leafets of the calyx ciliate-serrate; rays entire: seed wedge-form: about 4-toothed. 2 f. *S.* Y. T. B. D.

trip'teris, W. (tickseed sunflower. A. y. 2ſ.) glabrous; leaves petioled, lanceolate, entire; radical ones pinnate; cauline ones ternate: rays entire: seeds obovate, naked at the apex. P. T. D.

3. *Leaves alternate.*

dichotoma, Mx. (3) (y. S. ☉.) stem glabrous, nakedish and dichotomous above; leaves mostly alternate undivided, entire, narrowing into the petiole; seed obovate, 2-bristled, scabrous, with a torn margin. 2—3 f. *S.* Y.

aspera, Ph. ( ) leaves lanceolate-linear, rough; upper ones alternate; lower ones opposite: stem 1-flowered.

Southern.

1. *Leaves opposite, undivided.*

lan'ceola'ta, L. (y. S. 2ſ.) leaves sessile, lanceolate-linear, entire, ciliate: peduncles long, naked: seeds orbicular, scabrous, winged, 2-toothed at the summit, emarginate.

crassifolia, A. (O. y. J. 2ſ.) leaves obovate-oblong, entire, tapering at the base, hirsute: peduncles long, hirsute at the base.

Corallorhiza. Gr. *korallion*, coral, and *riza*, root: its roots resembling coral.

Coreopsis. Gr. *koris*, bug, and *ŏpsis*, appearance, the seed resembling that insect.

(1) Cymbidium, W. (2) innata, Br? (3) gladiata, Wr.

arguta, Ph. (y. 2f.) glabrous: leaves petioled, ovate, lanceolate, gradually acuminate, acutely serrate; peduncles axillary and terminal, dichotomous-corymbose.

latifolia, W. (A. y. Au. 2f.) leaves ovate, acuminate, crenate-toothed: teeth mucronate: petioles short; rays entire: seed cuneate, oblong, without wings, naked at the summit.

oemleri, E. (y. Au.) leaves broad-lanceolate, sessile, acute at each end, entire: peduncles axillary and terminal, dichotomous-corymbose. 2—3 f.

linifolia, N. (W. y. 2f.) very glabrous: leaves opposite entire; radical ones oval-oblong; cauline ones linear, short, obtuse: stem furrowed, 4-sided: seeds with 2-bristles.

oblongifolia, N. (2f.) a little hirsute: stem trichotomous, few-flowered: leaves opposite, entire, wedge-oblong, obtuse: peduncles very long: rays sub-toothed and entire: seed wedge-oblong naked.

2. *Leaves opposite, divided.*

aristata, W. (O. y. Au. 2f.) pubescent: leaves quinate, pinnate; leafets serrate: rays entire, broad, oval: seed cuneate-obovate, 2-awned; awns long, divaricate.

pubescens, E. (y. Au. 2f) pubescent: leaves quinate, pinnate; leafets lanceolate, obtuse, entire; lateral ones small: leaves of the exterior calyx ovate-lanceolate: rays undulate? egret 2-leaved, subulate, pubescent. 2 f.

auriculata, W. (A. y. S. 2f.) pubescent: leaves sub-sessile, oval-lanceolate, entire; lower ones ternate: exterior calyx deeply divided: rays 4-toothed: seeds obovate, roundish, 2-toothed at the summit. Var. *diversifolia*, E. hairy: radical leaves ternate, leafets round; cauline ones ternate, leafets obovate; upper leaves spatulate-lanceolate: seed roundish, denticulate, 2-toothed at the summit. 3—4 f.

senifolia, W. (A. y. Au. 2f.) pubescent: leaves sessile, ternate; leafets lanceolate, entire: rays entire: seed cuneate. Var. *rigida*, N. leafets linear-lanceolate; margin scabrous: exterior calyx about 12-leaved. 2—3 f.

aurea, W. (y. 2f.) leaves serrate; radical ones 3-parted; cauline ones 3-cleft or entire, lanceolate-linear.

palmata, N. (W. y.) stem simple, 1—3-flowered: leaves sessile sub-coriaceous, palmate-3-lobed; margin scabrous: double calyx 8-parted: seeds oblong-elliptic, naked. 12 i. D.

trifida, Lk. (y. 2f.) glabrous: leaves 3-cleft, subulate, fascicled: peduncles terminal, 1-flowered: rays 3-cleft: stem somewhat flexuous.

tenuifolia, W. (A. y. S. 2f.) glabrous: leaves opposite, sessile, ternate; leafets compoundly many-parted: segments linear, entire: disk one-colored. 2—3 f.

verticillata, W. (A. y. Au. 2f.) smooth; leaves opposite, sessile, ternate or quinate; leafets linear-lanceolate, entire: rays acute: seed obovate, somewhat 2-toothed. 2—3 f.

mitis, W. (y. Au. ♂.) glabrous: leaves bipinnatifid; leafets linear, serrulate: leaves of the external calyx linear, serrulate: seeds oblong, 2-awned. 3—4 f.

involucrata, N. (W.) leaves opposite cut-pinnate; leafets in fives, lance-linear, acuminate, gash serrate: outer leafets, hispid, longer than the

calyx: seeds sub-glabrous and scarcely 2-toothed. Collected by Dr. Pitcher in Arkansas.

ambigua, N. (W.) leaves opposite, gash-pinnate; leafets 3—5, sub-lanceolate, acuminate, gash-lobed, or somewhat entire: outer leafets glabrous, about equalling the calyx: seeds somewhat glabrous, short-toothed. Alabama.

wrayi, N. ( ) very glabrous; leaves cut-pinnate, sessile; upper ones 3-cleft: uppermost ones simple; divisions lance-linear, entire, acute: rays elongated: disk of one color.

stellata, N. ( ) glabrous: leaves sessile, cut-ternate, entire: leafets broad lanceolate, thin, tapering to both ends: rays entire: seeds wedge-oblong.

3. *Leaves alternate.*

acuta, Ph. (y. ♂.) leaves ovate-lanceolate, acute, toothed, somewhat hairy: flowers corymb-panicled.

procera, W. (y. 2f.) leaves elliptic, acuminate, serrate, petioled, veined, decurrent; lower ones verticillate: upper ones alternate.

angustifolia, W. (y.) leaves linear-lanceolate, entire, smooth: rays oblong, 3-cleft: middle segment largest.

nudata, N. (r.) stem sub-simple; summit dichotomous: leaves subulate, linear, remote, glabrous: rays somewhat 3-toothed: seeds naked. 2—3 f.

tinctoria, N. (W. y. & p.) radical leaves sub-bipinnate: leafets sub-oval, entire, glabrous: cauline ones sub-pinnate; leafets linear: rays 2-colored: seeds naked. 1—4 f.

5—2. Corian'drum. 45. 60.

Exotic.

sativum, S. (coriander. w. J. ☉.) fruit globose: calyx and style permanent.

1—2. Corisper'mum. 12. 29.

hyssopifolium, W. (O. Au. ☽.) spikes terminal: leaves linear, without nerves, unarmed. Var. *americanum*, N. spikes terminal and axillary: leaves nerved, subulate-mucronate. S.

4—1. Cor'nus. 45. 58.

canadensis, L. (dogwood, low cornel. O. w. M. 2f.) herbaceous: leaves at the top, whorled, veiny: involucres ovate, acuminate: fruit globose. 4—8 i. S.

suecica, (2f.) stem herbaceous, somewhat branching: leaves all opposite, sessile, ovate, nerved almost from the base: umbel peduncled; involucres exceeding the flowers: drupes globose. Canada.

Coriandrum. Gr. *koris*, bug, from the odor of the plant reminding one of those insects.

Corispermum. Gr. *koris*, bug, and *sperma*, seed, from a fancied resemblance.

Cornus. Lat. *cornu*, horn, from the wood being hard like horn.

florida, L. (false box, dogwood tree. w-y. M. ♄.) leaves ovate, acuminate: involucres 4, rarely 5 or 6, very large, somewhat obcordate: fruit ovate. 15—30 f. *S.* T. B. D. F. N.

sericea, W. (1) (red osier, red-rod. O. w. J. ♄.) branches spreading; branchlets woolly: leaves ovate, acuminate, rounded at the base, rusty-pubescent beneath: cymes depressed, woolly. Var. ***nervata***, leaves tapering to the base, unequal, veins beneath very prominent. Berries bright blue. 8—12 f. *S.*

sanguinea, L. (2) (common dog-wood. W. w. M. ♄.) branches straight: leaves ovate, pubescent, both sides colored alike: cymes spreading. Berries dark-brown: anthers yellow. 8—12 f. *S.* T. Canada.

circinata, Hr. (3) (O. w. J. ♄.) branches warty: leaves broad-oval, acuminate, white-downy beneath: cyme depressed. 6—8 f. *S.*

alba, W. (4) (white dogwood. O. J. ♄.) branches recurved; branchlets glabrous: leaves ovate, acute, pubescent, hoary beneath: cymes depressed. Berries bluish-white. 10 f. *S.*

paniculata, Hr. (5) (bush dogwood. O. w. J. ♄.) branches erect: leaves ovate, acuminate, oblong, tapering to the base, pubescence close-pressed, hoary beneath: flowers in a thyrsed cyme. Berries white, globular-flattened. 8—12 f. *S.*

stricta, H. (6) (O. w. Ju. ♄.) branches straight, fastigiate; leaves ovate color green both sides, glabrous when mature, a little downy beneath when young: panicled cyme convex. 8—12 f. *S.*

alternifolia, (W. w. M. ♄.) branches warty: leaves alternate, ovate, acute, hoary beneath: cymes depressed, spreading. Berries purple. 18 f. *S.* T.

Exotic.

mas'cula, (cornelian cherry. M. ♄.) umbels equalling the involucre.

Southern.

asperifolia, Mx. (W. w. J. ♄.) branches erect, pubescent: leaves oval-lanceolate, acuminate, scabrous above, tomentose beneath. 4—10 f.

16—10. Coronil'la. 32. 93.

varia, W. (r-p. Ju. 2[.) herbaceous, diffuse, glabrous: stipules small, acute; leafets 9 to 13, oblong, mucronate, lower ones of the stem near each other: umbels 16 to 20-flowered: legumes erect. 4 f.

Exotic.

emerus, (coronilla. y. ♄.) stem angled, woody; peduncles about 3-flowered: claws of the petals about thrice as long as the calyx.

glauca, W. (y. M. ♄.) leafets 7, very blunt; stipules lanceolate: umbels 10 or 12-flowered; peduncles longer than the leaves. Remarkably fragrant during the night and almost scentless during the day. 3 f.

Coronilla. Lat. *coronilla*, a little crown or wreath, from the appearance of the corymb of flowers.

(1) lanuginosa, Mx. alba, Wr. rubiginosa, Eh. (2) Dielitra, Hk. (3) tomentulosa, Mx. rugosa, Lk. (4) stolonifera, Mx. (5) racemosa, Lk. (6) fastigiata, Mx. sanguinea, Wr.

14—1. Coroko'pus. 39. 63.

Southern.

ruellii, S. (w. Ju. ☺.) silicle entire; margin muricate: style prominent: corymb few-flowered.

didyma, S. (swine's cress. W. Ju. ☺.) silicles emarginate, in pairs, reticulate, rugose: style obsolete: corymb many-flowered. 1—2 f. Charleston, S C.

16—5. Cory'dalis. (1) 24. 93.

glauca, P. (2) (O. y. r-g. J. ♂.) corol 1-spurred: stem branching, erect: leaves glaucous; cauline ones biternate: raceme sub-corymbed: bracts minute: silique linear, thrice as long as the peduncle. 1—4 f. S.

au'rea, W. (W. y. M. ☺.) stem branching, diffuse: leaves doubly-pinnate; leafets divided, lance-linear, acute at both ends: racemes one-way: bracts lanceolate: silique linear, thrice as long as the pedancle. 8—12 i. S. P. Y. K. D.

aucula'ria, W. (colic weed. O. y. & w. M. 2[.) corol 2-spurred: scape naked: raceme simple, 1-sided: nectaries divaricate, of the length of the corol: style enclosed. 8—12 i. S. R.

formosa, * Ph. (A. r. M. 2[.) scape naked: raceme somewhat compound, nodding, many-flowered: nectaries very short, incurved: style extended: root tuberous. 6—10 i. S. V. O. N. Canada.

fungosa, A. (3) (climbing colic-weed. O. r-w. J. ♂.) stem climbing: leaves cirrous: racemes axillary, corymbed, nodding: corol monopetalous, gibbous both sides of the base. S. Cultivated.

sculeri, Hk. (W.) leaf sub-solitary, thrice quadripinnate, longer than the sub-simple raceme; leafets obliquely oval or oblong, decurrent; bracts oblong, longer than the pedicel. R.

19—12. Cory'lus. 50. 99.

americana, Wr. (hazle-nut. O. Ap. ♄.) leaves roundish, cordate, acuminate: calyx roundish-campanulate, larger than the sub-globose nut; border dilated, coarsely serrate. 3—5 f. S.

rostrata, W. (beaked hazel. O. Ap. ♄.) leaves oblong-ovate, acuminate: stipules lance-linear: calyx of the fruit bell-tubular, 2-parted; divisions gash-toothed, elongated beyond the nut into a beak. 2—3 f. S.

Exotic.

avellana, (filbert. Ap. ♄.) stipules oblong, obtuse: calyx of the fruit campanulate, spreading at the apex, torn-toothed: leaves round-cor-

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Coronopus. Gr. *korōnē*, a crow, and *pous*, foot; the leaves are deeply cut and resemble a bird's foot.

Corydalis. Gr. *korudallis*, was an ancient name for the Fumitory, from which genus this has been separated.

Corylus. Gr. *korus*, a helmet or cap, alluding to the enwrapping calyx.

*Goldie has made a new species, which he calls *canadensis*. On examination it appears to be a division of this species, founded on some slight differences produced by cultivation.

(1) Fumaria, L. (2) sempervirens, L. (3) recta, Mx.

date, acuminate. Var. *maxima*, has a gash-toothed calyx: nut depressed-ovate.

14—2. CRAM'BE. 39. 63.

Exotic.

maritima, (w. 2[.) stem and leaves smooth, leaves sinuate, undulated, glaucous; root perennial, fleshy: flowers large, corymbed, panicled: silique 2-jointed. Cultivated for its early shoots, which are used as a substitute for asparagus.

18—1. CRANI'CHIS. 7. 21.

Southern.

multiflora, E. ( ) root fascicled, villous: leaves oval-lanceolate, subsessile:. scape many flowered, pubescent towards the summit: inner petals connivent: lip vaulted, acuminate.

Crantzia, HYDROCOTYLE.

11—5. CRATÆ'GUS. 36. 92.

coccinea, L. (thorn-bush. O. w. M. ♄.) thorny: leaves long-petioled, ovate, acutely-lobed, serrate, glabrous:. petioles and pubescent calyx glandular: flowers pentagynous. Var. *viridis*, has lance-ovate leaves, sub-trilobate: stem unarmed. Var. *flexuosa*? Sz. having flexuous, spreading branches. A specimen from Rainy Lake was examined by Schweinitz, after it was past flowering.

pyrifolia, A. (pear-leaf thorn. O. w. J. ♄.) thorny or unarmed: leaves oval-ovate, gash-serrate, somewhat plaited and rather rough-haired: calyx a little villose; leafets lance-linear, serrate: styles 3. *S.*

cordata, E. (1) (w. J. ♄.) thorny: leaves heart-ovate, pinnatifid-lobed, angled, glabrous: petioles and calyx without glands: styles 5. *S.* P.

elliptica, W. (2) (M. ♄.) thorny: leaves oval, unequally serrate, glabrous: petioles and calyx glandular; divisions of the calyx obtuse: berry globose, 5-seeded. *S.* P. Y.

glandulosa, W. (W. w. M. ♄.) thorny: leaves wedge-obovate, angled, glabrous, shining: petioles, stipules, and calyx glandular: berries oval, 5-seeded. *S.* P.

parvifolia, W. (3) (low thorn. w. M. ♄.) thorny: leaves obovate, deeply serrate, entire at the base, tomentose; calyx gashed: flowers solitary: styles 5. 3—6 f. *S.* Y. Charleston, S. C.

punctata, W. (4) (common thorn tree. w. M. ♄.) thorny or unarmed: leaves wedge-obovate, sub-plicate, glabrous, serrate: calyx villose: divisions subulate, entire. Var. *rubra*, has red berries. Var. *aurea*, yellow berries, with dark specks. *S.* D. F. T.

crus-galli, W. (5) (thorn tree, cock-spur thorn. O. w. M. ♄.) thorny: leaves wedge-obovate, sub-sessile, shining, leathery, serrate: corymbs compound; leafets of the calyx lanceolate, sub-serrate: styles 2. Var.

Crambe. Gr. *krambe*, cabbage.

Cranichis. Gr. *krancion*, a helmet, referring to the vaulted lip.

Cratægus. Gr. *kratos*, strength, from the firmness of the wood.

(1) populifolia, Ph, (2) prunifolia, Lk. (3) tomentosa, Mx.
(4) crus-galli, Du. Roi. (5) lucida, Wm. hyemalis, Wr.

splendens, leaves very shining. Var. *pyracanthifolia*, leaves lance-oblong, sub-cuneiform. Var. *salicifolia*, leaves lance-cuneiform. Var. *linearis*, leaves lance-linear: spines few, shortish: fruit yellow; styles 1 or 2. Var. *nana*, leaves lance-oval, paler beneath: branchlets often downy. Berries small, red. *S.* Is not this a Mespilus? Dc.

prunifolia, (1) (♄.) leaves broad: ovate, unequally serrate, glabrous; petioles sub-glandular: lobes of the calyx glandular, serrate: peduncles and calyx sub-villose. Fruit 2-seeded.

latifolia, (♄.) leaves obovate; unequally serrate, sub-plicate, nerves sub-villose beneath: stipules and lobes of the calyx linear; sub-dentate: corymbs villose. Fruit oval, red.

flava, W. (yellow-berried thorn. M. ♄.) thorny: leaves wedge-obovate, angled, glabrous, shining: petioles, calyx and stipules glandular: flowers sub-solitary: berries turbinate, 4-seeded. 8—10 f. *S.* V.

Exotic.

oxyacantha, (quickset, hawthorn. w. M. ♄.) leaves obtuse, somewhat 3-cleft, serrate, glabrous: peduncles and calyx somewhat glabrous: segments of the calyx lanceolate, acute: styles 2. Naturalized.

Southern.

lucida, E. (A. ♄.) thorny leaves wedge-obovate, crenate, coriaceous, lucid: corymbs simple, few-flowered: styles 5. 10—12 f.

turbinata, Ph. ( ) unarmed, glabrous: leaves wedge-obovate, notched, serrate: corymbs few-flowered: pedicels short: fruit turbinate.

arborescens, E. (w. March. ♄.) unarmed: leaves lanceolate, acute at each end, deeply serrate, glabrous above; nerves hairy beneath: corymbs many-flowered: calyx hairy; divisions subulate, entire: styles 5. 20—30. f.

viridis, L? (♄.) thorny: leaves sub-sessile, spatulate-ovate, with round lobes, serrate, glabrous: calyx glabrous: divisions with glandular serratures.

spathulata, Mx. (W. w. Ap. ♄.) somewhat thorny: leaves clustered, (base long, tapering,) 3-cleft, lobed, crenate, glabrous: corymbs many-flowered: calyx glabrous: divisions ovate, entire. 12—15 f.

apiifolia, Mx. (2) (W. w. Ap. ♄.) thorny: leaves deltoid-ovate, notched and lobed, hairy: lobes deeply serrate: calyx hairy; divisions serrate: styles 2. 4—12 f.

populifolia, Wr. (W. w. Ap. ♄.) thorny: leaves ovate, sub-truncate at the base, acute-serrate, somewhat lobed: petioles sparingly glandular; styles 5.

caroliniana, E. (♄.) leaves cordate, cuneate, entire, (dentate?) 3-5-lobed: peduncles bracted: calyx somewhat leafy.

platycarpa, (y. ♄.) branches winged above (or have decurrent stipules:) lower leaves oblong; upper ones lanceolate acute, stiffly hirsute: racemes lateral: bracts of florets linear. Banner sooty yellow.

17—2. CRIN'ITARIA. 49. 55.

viscidiflora, H. (♄.) very glabrous: leaves lance-linear, rigid, very

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Crinitaria. Lat. *crinitus*, hairy; the egret being profusely pilose.
(1) Mespilus, Poir. (2) oxycantha, Wr.

entire and acute, one nerved and narrow at the base: flowers level-corymbed: peduncles foliolose: calyx cylindric, with glutinous leaflets and 5 florets; leafets imbricate, oblong, outer ones smallest. 2—4 £

6—1. Cri'num. 9. 17.

Southern.

americanum, A. (W.) leaves oblong-lanceolate, very glabrous at the margin: apex compressed-unguiculate: flowers pedicelled: tube shorter than the limb.

Cristaria, Malva.

Cristatella, Cleome.

Critonia, Kuhnia.

3—1. Cro'cus. 6. 18.

Exotic.

officinalis, (saffron. y. 2{.) leaves linear, with revolute margins: stigma exsert, with long-linear segments. Var. *sativus*, has violet corols.

16—10. Crotala'ria. 32. 93.

sagittalis, Mx. (rattle-box. y. Ju. ☉.) hirsute, erect, branching: leaves simple, lance-oblong: stipules lanceolate, acuminate, decurrent: racemes opposite to the leaves, about 3-flowered corol less than the calyx. *S.* C. N. F. B. Y. P.

parviflora, W. (1) (y. J. ☉.) hirsute, erect, branching: leaves simple, lance-linear: stipules above decurrent, with two short teeth: racemes opposite to the leaves: corol smaller than the calyx. *S.* P. Y.

flexuosa, (♄.) leaves obovate, sharply toothed, hairy both sides; corymbs small: downy: branches flexuose. Fruit yellowish: spines long, becoming blackish. Carolina.

Southern.

ovalis, Ph. (y. Ju. ☉.) hirsute, diffuse, branching: leaves simple, oval, petioled: upper stipules scarcely decurrent, short: racemes opposite to the leaves, long: corol as long as the calyx. 12 i.

laevigata, Ph. (2) (Ju. ☉.) glabrous, erect, simple: leaves lance-oblong: stipules lanceolate, acuminate, decurrent: racemes opposite to the leaves, 3-flowered.

Crotalaria, Baptisia.

19—15. Cro'ton. 38. 96.

Southern.

maritimum, Wr. (3) (Ju. ♄. 2{.) leaves oval or acute, sub-cordate, ob-

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Crinum. Gr. *krinon*, a name applied to the lily and other showy plants.

Crocus. Gr. *krokos*, saffron, which some say is from the Hebrew; others from Crocus, who was metamorphosed into this plant, according to Mythology.

Crotalaria. Gr. *krotalon*, a rattle. The pods of this genus are inflated, and rattle when shaken.

Croton. Gr. *krotōn*, a tick, from the form of the seed.

(1) A variety of sagittalis, Mx. (2) Purshii, Dc.

(3) disjunctiflorum, Mx.

tuse; pale above, hoary beneath: branches tomentose: pistillate spikes few-flowered. Var. *monanthogynum*, spikes dichotomous: pistillate flowers solitary, pedicelled. 2—3 f.

argyranthemum, Mx. (Ju. ♃. & ♄.) leaves entire, obtuse, obovate: racemes terminal, short, many-flowered: calyx pedicelled, silvery.

glandulosum, L. (Ju. ☉.) leaves oblong, serrate, hairy beneath; base nearly entire, bearing two glands: stem trichotomous: spikes in the division of the stem.

ellipticum, N. (W. ☉.) stellate pubescent: leaves elliptic-ovate, (older ones obtuse) smooth and green above: flowers conglomerated: styles 3, bifid.

capitatum, Mx. (W. ☉.) woolly-tomentose: leaves oval oblong, obtuse, entire and rounded at the base; both sides tomentose: fertile flowers at the base of the spikelets: staminate ones capitate, crowded.

19—5. CROTONOP'SIS. 38. 96.

linearis, Mx. (1) (W. J. ♃.) stem erect, dichotomous-branching: leaves stellate-pubescent above, covered with silvery scales beneath. 12—18 i. *S.*

3—2. CRYP'SIS. Lk. 4. 10.

virginica, W. (2) (S. ♃.) spikes oblong, thick-lobed: stem procumbent, geniculate: joints numerous, approximate: leaves involute, rigid, pungent. *S.* Y. P.

Southern.

squarrosa, N. (W. ☉.) stem decumbent, branching: capituli squarrose, few-flowered: leaves short, rigid, pungent.

2—2. CRYP'TA. 13. 86.

minima, (3) (mud purslane. w-g. S.) stem dichotomous, decumbent, striate: leaves wedge-oval or obovate, opposite, sessile, entire, papillose above, with very minute stipules: flowers axillary, sessile, solitary. P. T. Very abundant on the shores of the Hudson, between high and low water mark, about a mile below Albany.

5—2. CRYPTOTAE'NIA. 45. 88.

canadensis, (4) (O. w. J. ♃.) the lower umbels originate from the axils of the upper leaves: fruit oblong, stem glabrous: leaves ternate, smooth; leafets rhomb-ovate, acute, gash-toothed. 1—2 f.

Crotonopsis. So called from its resembling the Croton.

Crypsis. Gr. *krupsis*, concealment, from the flowers being hidden in the sheath of the leaf.

Crypta. Gr *kruptō*, to conceal, the stamens being concealed in the capsular calyx.

Cryptotaenia. Gr. *kruptos*, concealed, *tainia*, fillet, in allusion to concealed edgings to the fruit.

(1) argentea, Pk. (2) Agrostis virginica, W. (3) Peplis americana, Pk. (4) Sison canadensis, L. Sison trifoliatum, Mx. Uraspermum, N.

10—3. Cucu'balus. (1) 22. 82.

behen, L. (2) (bladder campion. w. Ju. 2{) glabrous, glaucous, decumbent: leaves oblong-oval, acute, nerveless: calyx inflated-membranaceous, veiny. Y. P. B.

nivens, M. (w.) stem divaricate-dichotomous above: leaves oblong-lanceolate, minutely pulverulent, pubescent; upper ones ovate: calyx obtuse, bell-form, inflated, sub-pilose.

stellatus, L. (W. w. Ju. 2{.) pubescent, erect: leaves whorled, in fours, lance-oval, very long-acuminate. 2—3 f. S.

douglassii, Hk. (W.) slightly hairy: stem erect, slender, zigzag: leaves remote, hairy-linear narrow: flowers panicled: calyx obovate, at length inflated, slightly striate, obscurely reticulate, pubescent. R.

19—15. Cu'cumis. 34. 97.

Exotic.

colocynthis, (bitter apple. ☉.) leaves many-cleft: pomaceous berry globose, glabrous. Fruit very bitter.

anguria, W. (prickly cucumber.) leaves palmate-sinuate: fruit globose, echinate.

anguinis, (snake cucumber. ☉.) leaves lobed: pomaceous berry cylindric, very long, smooth, contorted, plaited.

melo, W. (muskmelon. y. Ju. ☉.) angles of the leaves rounded: pome oblong, torulose. Sweet-scented.

sativus, W. (cucumber, y. Ju. ☉.) angles of the leaves straight: pomaceous berry oblong, scabrous. Brought from Asia.

19—15. Cucur'bita. 34. 97.

Exotic.

ovifera, W. (egg-squash. ☉.) leaves cordate, angled-5-lobed, denticulate, pubescent: pomaceous berry with fillet-like stripes lengthwise.

verrucosa, (W. club-squash. y. J. ☉.) leaves cordate, deeply 5-lobed: middle lobe narrowed at the base, denticulate: pomaceous berry clavate, a little warty.

melopepo, W. (flat squash. y. J. ☉.) leaves cordate, obtuse, sub-5-lobed, denticulate: pomaceous berry depress-based, swelled at the margin.

pepo, W. (pumpkin. y. Ju. ☉.) leaves cordate, obtuse, sub-5-lobed, denticulate: pomaceous berry roundish or oblong, smooth. Var. *potiro*, has the fruit more or less flattened. From Asia.

citrullus, W. (watermelon. y. Au. ☉.) leaves 5-lobed; the lobes sinuate-pinnatifid, obtuse: pomaceous berry oval, smooth. Fruit watery, often striped. From Africa and the south of Asia.

Cucubalus. Gr. *kakos*, evil, and *bolē*, shoot, alluding to its supposed evil qualities.

Cucumis. Lat. *cucumis*, said to be derived from the Celtic *cuce*, a hollow vessel.

Cucurbita. Lat. *cucurbita*, a vessel, derived likewise from Celtic *cuce*, a hollow vessel; a cucurbit.

(1) Silene, Hk. (2) Behenantha, Hk.

lagenaria, W. (gourd, calabash. w. Au. ☉.) leaves cordate, round-obtuse, pubescent, denticulate, with 2 glands at the base on the under side: pomaceous berry clavate, somewhat woody.

Southern?

foetidissima, Kunth† (1) (W. Jn. ♃.) stems procumbent; sulcate: leaves alternate, long-petioled, somewhat erect, tringular-cordate, scabrous, glaucous, thick; margin sinuate, undulate: fruit globose, smooth, sub-sessile: tendrils trichotomous.

13—1. CU'NILA. 42. 42.

mariana, L. (dittany. W. r-b. J. ♃.) leaves ovate, serrate, sessile: corymbs axillary and terminal, dichotomous. Diaphoretic, Bw. *S.* Y. P. H. F. M. Highlands.

Cunila, HEDEOMA.

11—1. CU'PHEA. 54. 91.

viscosissima, (wax-bush. W. p. J. ♄.) viscous: leaves opposite, petioled, ovate-oblong: flowers with 12 stamens, lateral, solitary: peduncles very short. *S.* Washington co. Stevenson. V. P. H. M. K.

19—15. CUPRE'SSUS. 51. 100.

thyoides, W. (white cedar. O. M. ♄.) branchlets compressed: leaves imbricate four ways, ovate, tubercled at the base: strobile globular. *S.*

disticha, W. (W. Feb.) leaves distichous, flat, deciduous: sterile florets paniculate, leafless: strobile spherical. *S.*

5—2. CUS'CUTA. 29. 44.

americana, W. (dodder, love-vine. O. w. Au. ☉.) flowers peduncled, umbelled, 5-cleft; stigma capitate. A bright yellow leafless vine, twining around other weeds in damp places.

europea, (flax-vine. E. w. Au. ☉.) flowers sub-sessile: stigma acute: stamens 4 or 5.

Cyamus, NELUMBIUM.

20—12. CY'CAS. 1. 100.

Remark. This plant is inserted because it is a genus much distinguished in Vegetable Physiology for its naked seeds; and its being intermediate between the Pines and Ferns.

Cunila. Gr. *konilē*, the ancient name for the pennyroyal.

Cuphea. Gr. *kuphos*, crooked or gibbous, alluding to the capsules.

Cupressus. Gr. *kuō*, to bear, and *parisos*, equal, alluding to the regularity of its branches, or from *kupros*, the Greek name of the island Cyprus.

Cuscuta. Modern Gr. *kasnuta*, perhaps from *kasnuo*, to sew together; or from an Arabic word. The ancient name of a parasitical plant.

Cycas. The name of a little palm of Ethiopia. It is now applied to a Chinese plant, the pith of which is manufactured into the *sago* of the shops.

(1) Cucumis? perennis, James.

Exotic.

circinatis, (sago plant) frond pinnate; leafets lance-linear, acute, 1-nerved, flat. East Indies.

18—1. CYMBID'IUM. 7. 21.

pulchellum, Sw. (1) (grass pink. O. r. Ju. 2ℓ.) radical leaves enisform, nerved: scape few-flowered: lip erect, slender at the base: lamina spread; disk concave, bearded. Var. *graminifolia*, leaves 1—2 lines broad; bracted ones acuminate. 12—18 i. S.

5—2. CYMOP'TERUS. 45. 60.

glaucus, N. (y. A. p. 2ℓ.) stem stipe-form or none: leaves twice cut-pinnate, segments sub-pinnatifid; teeth somewhat oblong, apiculate: peduncles shorter than the leaves: involucre and involucels halved. R.

terebinthinus, Doug. ( ) glabrous: root thick, fusiform, from which oozes a viscid resinous gum: leaves triply-pinnatifid, glaucous; divisions short linear, acute: peduncles long: general involucre 0; leafets of the partial involucres linear, short, the half fruit with 5 broad, undulating wings. R. A.

glomerata, Dc. (W. w. J. 2ℓ.) polygamous; smooth; low; stem sub-decumbent: leaves cut-biternate; lobes short, obtuse decussate: petioles long: umbel short, 4—6-rayed: involucre 0; involucels halved, 5—7-parted.

18—5. CYNAN'CHUM. 30. 47.

Southern.

angustifolium, M. (2) (L. y-g. Ju. 2ℓ.) twining: leaves linear, entire: flowers umbelled; peduncles the length of the leaves: divisions of the calyx linear.

laevi, Mx. (3) (W. p. J. 2ℓ) shoots somewhat glabrous: leaves sub-conoid-cordate, gradually acute, nerved, pubescent beneath: flowers glabrous; divisions of the corol oval-oblong, obtusish: follicles smooth.

scoparium, N. (E g-y. ♄.) stem twining, striated, naked (excepting young branches:) branches opposite: leaves linear, remote; umbels sessile, small flowered.

17—1. CY'NARA. 49. 54.

Exotic.

cardunculus, (cardoon 2ℓ.) leaves spinose, all pinnatifid; scales of the calyx ovate.

scolymus, (garden artichoke. 2ℓ.) leaves sub-spinose, pinnate: scales of the calyx ovate. Naturalized.

Cymbidium. Gr. *kumbē*, a little boat, referring to the shape of the lip.

Cymopterus. Gr. *kuma*, a wave, *pteris*, a wing; the wings of the fruit being undulated.

Cynanchum. Gr. *kuon*, (*kunŏs*) dog, and *agcho*, to strangle, having the same meaning as Apocynum.

Cynara. Linneus says it is from *kuon* (*kunos*) dog, on account of the stiff hard spines of the involucre, which resemble the teeth of a dog.

(1) Limodorum. tuberosum. L. Callopogon pulchellum. Br. (2) Ceropegia palustris, Ph. (3) Gonolobus, Mx.

3—2. CYNO'DON. 4. 10.

dactylon, P. (1) (Au. 2ℓ.) creeping: spikes digitate, (4—5) spreading: keel of the calyx scabrous: leaves hairy on the margin and base: sheaths hairy. 1 f. *S.*

5—1. CYNOGLOS'SUM. 41. 43.

officinale, (hound-tongue. tory weed. O. p. J. ♂.) very soft-pubescent: leaves broad lanceolate, sessile: racems panicled.

amplexicaule, Mx. (2) (wild comfrey. W. w. & b. J. 2ℓ.) very hirsute: leaves oval oblong; upper ones clasping: corymbs terminal, leafless, long-peduncled. *S.* F. W. M. H. V. O. P. N. D.

Southern.

sylvaticum, S. (green-leaved hound-tongue. b. Ju. ♂.) nakedish: leaves spatulate-lanceolate, shining, scabrous beneath: racemes scattered.

pilosum? (W. w. M.) hairy: radical leaves spatulate-oblong; cauline ones lance-oblong, obtuse; flowers axillary, sub-spiked, secund.

5—2. CYNOSCIA'DIUM. 45. 60.

Southern.

digitatum, Dc. (3) (W.) leaves cut-palmate, segments 3, linear, very entire: fruit ovate, tapering to the base in a neck. Arkansas.

pinnatum. See Æthusa.

Cynosurus, ELEUSINE, CHLORIS.

Cynthia, KRIGIA.

3—1. CYPE'RUS. 3. 9.

inflexus, M. (4) (W. Au. ♄?) umbel 2—3-rayed, or conglomerated and simple: involucre 3-leaved, very long: spikelets collected into ovate heads, oblong, 8-flowered: glumes squarrose at the tip. 2—3 i. *S.* V. Y. B. N. Canada.

flavescens, L. (yellow grass. O. Au. 2ℓ.) spikelets linear-lanceolate, in fascicles of 3—4: glumes obtuse: style 2-cleft: and lenticular: involucre 3-leaved, longer than the spikes. 6—8 i. *S.*

castaneus, Bw. (5) spikelets ovate-lanceolate, involucre three leaved, longer than the umbel.

nuttall'ii, T. (W. L. Au. 2ℓ.) culm acute-triangular: umbel radiated, or sub-sessile, loose: rays short: involucre 4-leaved; two leaves longer: spikelets linear-lanceolate, compressed, acute; stamens 2: style 2-cleft: seed oblong-obtuse, compressed. 5—12 i. Peekskill.

diandrus, T. (S. 2ℓ.) culm slender, obtuse triangular: umbel sessile, or

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Cynodon. Gr. *kuŏn (kunŏs)* dog, *odous*, tooth, probably referring to the acute carol.

Cynoglossum. Gr. *kuon (kunos)* dog, and *glossa*, tongue, from the resemblance of the leaves.

Cynosciadium. Gr. *kuon (kunos)* dog, *kaiadas*, hell; supposed to be destructive to dogs.

Cyperus. Gr. *kuparos*, a small, round vessel, which its roots resemble.

(1) Digitaria, E. Panicum, L. (2) virginicum, L. (3) Œnanthe digitata, N. (4) uncinatus, Ph. (5) flavescens, *Var.* castaneus, Ph.

1—2-rayed: involucre 3-leaved; two of the leaves longer than the umbel: spikelets lanceolate-oblong, much compressed, many-flowered: (14—16) glumes margined, acutish, keeled: stamens 2; style 2-cleft: seed oval, compressed. 8—12 i. B. N.

dentatus, T. (1) (S.) umbel compound, (6—10-rayed:) involucre 3-leaved, longer than the umbel; spikelets 3 on each ray, alternate-ovate, compressed. 8-flowered: glumes acute, nerved, spreading at the points: seed triquetrous. 1 f. B. N.

erythrorhi'zos, (2) M. (Au.) umbel decompound: involucre 3—6-leaved, long: spikes alternate, linear, horizontal; about 12-flowered, nearly terete: style 3-cleft: seed triquetrous. 1 f.

tenuis, Sw. (2f.) spikes lanceolate, acute, 10—17-flowered: umbel simple: involucre 3—4-leaved, longer than the rays: root tuberous. 8 i.

phymatodes. M. (W. Au.) umbel simple or decompound: involucre 3—9-leaved; three of the leaves very long: peduncles compressed: spikelets distichous, linear; lower ones branched, about 15-flowered; sides rather convex: glumes oblong, obtuse: radicles tuberous at the extremities. 1 f. P. T. O. H.

compressus, L. spikes digitate, somewhat in fours, lanceolate: glumes mucronate, broad, membranaceous. 3—8 i. *S.*

virens, Mx. culm acute-triangular: umbels decompound: spikelets ovate-lanceolate, capitate: involucre very long. 1—2 f. *S.* C.

mariscoides, E. (W. Au.) umbel simple or 1—2-rayed: spikelets capitate, linear, 7—8-flowered: glumes loose, obtuse. 8—12 i. *S.* B. O. H. P. N. T. D.

odoratus, L. (Au.) spikelets corymbed, subulate, remote, distichous: glumes somewhat distant: smaller umbels very spreading, about the length of their involucres. *S.*

flavico'mis, Mx. (W.) culm triquetrous: umbel compound: spikes linear-lanceolate, 7-flowered, (10—12-flowered, E.) glumes obtuse: involucre long, reflexed. *S.* T. C.

articulatus, Vahl. (Ju. 2f.) stem columnar, naked, jointed, erect, 3—6 f. *S.*

kyllingaeoi'des, Vahl. (J.) head globose: spikes oblong, convex, about 8-flowered: involucres 4-leaved, and with the keeled leaves loose. *S.*

strigosus, E. (W. S.) spikes oblong, loose; spikelets subulate, expanding, a little remote: small involucres generally wanting: partial umbels with alternate rays. 2—3 f. *S.* C. B. P. N. T.

alterniflorus, Sz. (W. 2f.) spike corymb-umbelled, compressed, central, sub-sessile: spikelets distichous: florets alternately distant: glume broad-ovate, keel mucronate. 1 f. D.

minimus, W. ( ) culm capillary, terete: spikes solitary or in pairs: involucre 1-leaved.

Southern.

poaeformis, Ph. (W. Ju.) spikes oblong, flattened, corymb-fascicled; fascicles sessile and peduncled: involucre 3-leaved, very long. 8 i. N.

fasciculatus, E. spikelets ovate-oblong, many-flowered, in terminal fascicles: involucre 2-leaved, and with the leaves linear, very narrow. 6 i.

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(1) parviflorus, M. (2) tenuiflorus, L. strigosus, Sw?

autumnalis, Vahl. (Ju,) spikes linear, terminal, digitate, somewhat in threes: umbel as long as the 2-leaved involucre.

vegetus, Vahl. (Ju.) stem slender, obtusely 3-angled: umbels decompound, spikelets oval, in compact globose heads: involucre very long. 2—3 f.

formosus, Vahl. (W. 2f.) spikelets ovate-lanceolate, capitate: involucre about 6-leaved, very long, scabrous at the margin.

filiculmis, Vahl. spikelets linear, in globose heads, expanding: umbel about 1-rayed: involucre 2-leaved, with the stem setaceous.

filicinus, Vahl. (Ju. 2f.) spikelets linear-lanceolate, somewhat remote, loose-imbricate; involucre 3-leaved, longer than the umbel, with the leaves loose.

gracilis, M. (S. ☉.) stem slender, acutely 3-angled; leaves 3-angled: umbels compound: spikelets linear-lanceolate. 12 i.

tetragonus, E. ( ) spikes oblong, cylindric: spikelets somewhat 4-angled, few-flowered: small involucre wanting. 2—3 f.

distans, Vahl. ( ) spikes distichous: spikelets filiform, expanding: florets distant: umbel straight.

speciosus, Vahl. (S.) spikes corymbed; spikelets subulate, distichous: partial umbels shorter than the small involucres: ochreas 2-awned: stem acutely angled. 2—4 f.

easlen'ii, Ph.. (Au.) spikes corymbose, oblong, branching at the base, naked: spikelets numerous, divaricate, crowded, linear, about 6-flowered: valves oblong, striate: involucre 8-leaved, as long as the umbel.

18—2. CYPRIPE'DIUM. 7. 21.

candidum, M. (white ladies' slipper. W. w. M. ♄.) stem leafy: leaves lance-oblong: lobe of the style lanceolate, obtusish: lip compressed, shorter than the lanceolate petals. P.

parviflorum, Sy. (1) (common ladies' slipper. W. y-g. M. 2f.) stem leafy. lobe of the style triangular, acute; outer petals oblong-ovate, acuminate; inner ones linear, contorted: lip shorter than the petals, compressed. S. Y. P. C. V. T.

pubescens, W. (2) (yellow ladies' slipper. W. y. M. 2f.) stem leafy; lobe of the style triangular-oblong, obtuse: outer petals oblong-ovate acuminate: inner ones very long, linear, contorted: lip compressed, shorter than the petals. 12—18 i. S. T. O. P. D. F. N.

spectabile, W. (3) (gay ladies' slipper. W. w. & p. J. 2f.) stem leafy; lobe of the style oval-cordate, obtuse; outer petals broad-oval, obtuse; lip longer than the petals, split before. 18 i. S. W. T. Y. N. P. F. C. V. D. O. Maine.

acaule, A. (4) (low ladies' slipper. W. w. & p. M. 2f.) scape leafless 1-flowered: leaves radical, in pairs, oblong, obtuse: lobe of the style round-rhomboid, acuminate, deflexed; lip longer than the lanceolate petals, split before. 12—18 i. S. T. C. B. O. F. D. P. N.

arietinum, A. (w. r. g. M. ♄.) stem leafy: lobe of the style orbicular, obtusish: petals 5; the two lower ones lance-linear, deflexed; the two lateral linear spreading; upper one ovate-oblong, acute: lip of

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Cypripedium. Gr. *kupris*, Venus, and *podion*, slipper, from the form of the nectary.

(1) calceolus, Mx. (2) flavescens, Redoute. calceolus, Wr.
(3) canadense, Mx. album, A. reginae, Wr. (4) humile, W.

the length of the petals, ob-conic before, saccate. 6 i. Canada. Maine. Damp. P.

5—1. CYRIL'LA. 40. 51.

Southern.

racemiflora, L. (1) (w. J. ♄.) leaves lanceolate, cuneate at the base, coriaceous, very smooth: petals thrice as long as the calyx. 15 f. Sandy woods, Carolina. Charleston, S. C.

Cyrilla, PICKERINGIA.

Cytisus, GENISTA.

D.

3—2. DAC'TYLIS. 4. 10.

glomerata, L. (cocks'-foot grass. W. J. ♃.) panicle secund, glomerate; leaves carinate. 2—3 f. S. T. C. B. F. P. N.

16—10. DA'LEA. 32. 93.

ornata, Doug. (2) (W.) spike oblong-cylindric: bracts longer than the villose calyx: leafets in 2 or 3 pairs, oval-oblong, glabrous. R.

formosa, T. & J. (W. p. ♄.) suffruticose, very branching, glabrous: leafets somewhat in 5 pairs, wedge-oblong, retuse, black-punctate beneath: spikes lax, few-flowered, short-peduncled: bracts ovate, shorter than the calyx; calyx plumose-villous.

Southern.

aurea, N. (W. y. Ju. ♃.) erect: spikes dense, cylindric: bracts rhomboid-ovate, as long as the calyx: calyx woolly-villose: leafets (about 9) obovate, pilose beneath. 2 f. Louisiana.

laxiflora, Ph. (W. w. Ju. ♃.) somewhat glabrous: stem very branching above: branches lax, elongated: spikes panicled, elongated, with remotish enneandrous flowers: bracts roundish, mucronate, keeled: calyx silky-villose: leaves about 4 pairs, linear. 6 f. Louisiana.

alopecuroides, W. (3) (W. b. Ju. ☉.) spikes cylindric, peduncled, terminal, silky, crowded: bracts about as long as the calyx: leaves 6—12 pairs, oval, (toothed near the summit?) retuse, mucronate. 1 f. Mississippi.

pedunculata, Ph. (W. w-r. Ju. ☉.) a little glabrous: spikes oblong, axillary, somewhat crowded, short: peduncles thrice as long as the leaves: bracts minute, as long as the pedicels: teeth of the calyx subulate: leaves about in 6 pairs, linear, acute, mucronate. Is this a variety of the last?

Cyrilla. In honor of Dr. Cyrilli, an eminent botanist of Naples.
Dactylis. Gr. *dactulos*, a finger, in allusion to the shape of its spikes.
Dalea. In honor of Samuel Dale, an English botanist.
(1) caroliniana, Ph. Itea cyrilla, W.
(2) Petalostemum, Hk. (3) cliffortiana, Ph. Petalostemon, do. Dalea linnaei, Mx.

Dalea, Astragalus.

11—13. Dalibar'da.[4] (1) 35. 92.

repens, Lk. (2) (spice root, false violet. W. A. w. J. 2f.) villose: having creeping shoots: leaves simple, cordate, crenate: peduncles 1-flowered. Troy, rare.

fragaroides, Mx. (3) (dry strawberry. W. y. M. 2f.) leaves ternate: leafets wedge-form, gash-serrate, ciliate: peduncles many-flowered: tube of the calyx obconic. 5—8 i. T. O. Hanover, N. H.

Southern.

lobata, Bald. (y. M. 2f.) hairy: leaves nearly round, cordate, lobed, crenate, ciliate: stem somewhat naked: peduncles many-flowered. 5 i.

3—2. Dantho'nia. 4. 10.

spicata, W. (4) (wild-oats. W. Ju. 2f.) panicle simple, appressed; spikelets 7—9, about 7-flowered: inferior valve of the corol hairy: leaves subulate: lower sheaths hairy at the throat. 18—24 i. C. O. M. N. T. D.

glumosa, Mx. (5) (Ju.) culm erect: raceme compound; branches 2 and 3-flowered: spikelets 9 to 13, 8 and 9-flowered, somewhat shorter than the calyx: valves of the corol very unequal, outer lanceolate, densely villose on the margin, bristly, 2-cleft at the apex, with a central twisted awn: inner valve ciliate, much shorter. S. Y.

8—1. Daph'ne. 31. 25.

Exotic.

meze'reum, (mezereon. r. & w. M. ♄.) flowers sessile, cauline, in threes: leaves lanceolate. Var. *rubra*, has red flowers. Var. *alba*, has white flowers. 4 f.

odo'ra, (sweet mezereon. w. Ap. ♄.) having many flowers in little terminal heads: leaves scattered, lance-oblong, glabrous. 3 f.

15—10. Darlingto'nia. (6) 33. 93.

intermedia, T. & J. (W. 2f.) unarmed, herbaceous, glabrous: leaves 8 or 9 pairs; leafets 20 to 24 pairs, oblong-linear, with glands between the lower leaves: little heads solitary, axillary, peduncled: legumes falcate.

Southern.

brachy'loba, Dc. (W. 2f.) unarmed, herbaceous, glabrous: leaves 6 to 8 pairs; leafets 16 to 24 pairs, linear, with glands between the lower

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Dalibarda. In honor of M. Dalibard, a French botanist.

Danthonia. In honor of M. Danthoin, a French botanist.

Daphne. After the nymph Daphne, in allusion to her change into a laurel, which some species of this genus resemble.

Darlingtonia. In honor of Dr. Wm. Darlington, of Pennsylvania, author of Flora Cestrica.

(1) Comaropsis, Dc. (2) violacoides, Mx. Rubus dalibarda, W.

(3) Dryas trifoliata, Pallas.

(4) Avena, L. (5) sericea, N. Avena, L. (6) Acacia, Mimosa.

leaves: little heads solitary, axillary, peduncled: legumes shortish, lanceolate. Kentucky, &c.

glandulo'sa, Dc. (W. 2ℓ.) unarmed, herbaceous, glabrous: leaves 12 to 14 pairs; leafets 20 to 30 pairs, linear, with glands between all the leaves: little heads solitary, peduncled, axillary; legumes falcate. Tennessee.

20—12. DATIS'CA. 54. 98.

hirta, W. (false hemp. y. 2ℓ.) stem hirsute: leaves pinnate: leafets running together at the base. Flowers small, panicled. P.

5—1. DATU'RA 28. 41.

stramo'nium, L. (green thorn-apple. O. w-b. Au. ☉.) pericarps spinose, erect, ovate: leaves ovate, glabrous, angular dentate. *S.*

tat'ula, L. (purple thorn-apple. O. b. Ju. ☉.) pericarps spinose, erect, ovate: leaves cordate, glabrous, toothed. This species is considered only a variety of the first by some botanists. Stem reddish. *S.*

metel, W. (W. w. J. ☉.) leaves cordate, nearly entire, pubescent, pericarps prickly, globose, nodding. Naturalized about N. Haven.

ceratocaulon, Ort. (w. Ju. ☉.) leaves ovate, lanceolate, wavy, beneath hoary: stem dichotomous, cornute: pericarps obovate, pendulous.

5—2. DAU'CUS. 45. 60.

caro'ta, W. (carrot. W. w. J. ♂.) seeds hispid: petioles nerved underside: divisions of the leafets narrow-linear, acute. 2—3 f. Naturalized and cultivated.

pusillus, Mx. ( ) stem retrorsely hispid: leafets with the segments very small, linear-lanceolate: umbels small; seeds muricate, with 8-crested ribs. Var. *microphyllus* (W) stem soft-villose: leaves with gash-linear segments. 16—18 i. P. R. Carolina. Red River.

microphyllus, Dc. ( ) stem with soft hairs at the base turned backwards: leaves cut-bi-pinnate, villous; segments cut into linear divisions: leafets of the involucre pinnatifid, about equalling the small crowded umbel: prickles of the ovate fruit about equalling its breadth. R. A.

Decodon, LYTHRUM.

11—1. DECUMA'RIA. 19. 89.

Southern.

barbara, W. (decumary. w. Ju.) leaves ovate-oblong, acute at each end, slightly serrate.

sarmento'sa, W. (J.) leaves ovate, acute, rounded at the base, serrate at the top. Charleston, S. C. Florida.

Datisca. Probably from Gr. *datusso*, to devour, because it spreads rapidly, and destroys other plants.

Datura. An alteration of the Arabic name *tâtûrah*. About Goa and Canara it is called Daturo.

Daucus. The Greek name of the carrot.

Decumaria. Lat. *decuma*, or *decema*, tenth, in allusion to the division of the flower and fruit into tenths.

alata, stem compressed: leaves pinnate, confluent, ribbed, linear, entire. In the sea.

12—2. DELPHIN'IUM. 26. 61.

exaltatum, (W. (1) (W. A. b. Ju. 2ℓ.) petioles not dilated at the base: leaves flat, 3-cleft below the middle; lobes wedge-form, 3-cleft at the apex, acuminate; lateral ones often 2-lobed: racemes straight; spur longer than the calyx. 2—4 f. *S.* P. R.

exaureum, M. (2) (W. b. M. 2ℓ.) petioles slightly dilated at the base: leaves 3—5 parted, many-cleft: divisions linear: racemes straight: petals densely bearded: flowers short pedicelled. 2 f. *S.*

virescens, N. (W. g-w. 2ℓ.) pubescent: nectary 4-leaved, shorter than the 5 calycine petals, inner laminae densely bearded: leaves 3-parted; divisions linear, sub-trifid, lower ones divaricate. 8—12 i. *S.* D.

simplex, Douglass (W.) pubescent; petioles dilated at the base: leaves 3-parted, with deep linear divisions; racemes simple, straight: petals bearded: spur straight, longer than the limb. Rocky Mt. & west.

bicolor, N. (y. & b. Ap. 2ℓ.) small: somewhat villous; few-flowered: leaves digitate, 5-parted: lobes 3-5-cleft, divisions linear short; bracts undivided: petals shorter than the calyx: lower ones hairy: spur curved, of the length of the calyx. R.

Exotic.

consolida, (larkspur. W. b. Ju. ☉.) nectaries 1-leaved: stem sub-divided. Naturalised. 4 f.

staphisagria, (b. Ap. ♂.) nectary 4-leaved, shorter than the petals: leaves palmate, with obtuse lobes. 2 f.

ajacis, (rocket larkspur. b. Au. ☉.) nectary 1-leaved: stem simple. 2 f.

Southern.

tricorne, MX. (W. b-w. M. 2ℓ.) petiole scarcely dilated at the base, glabrous: leaves 5-parted: divisions 3—5 cleft, segments linear: nectary shorter than the corol: capsules arched, expanding from the base. 8—12 i.

14—2. DENTA'RIA. 39. 63.

diphylla, MX. (tooth-root, trickle, pepper-root. W. w. M. 2ℓ.) stem 2-leaved: leaves ternate, ovate-oblong, unequally gash-toothed: root toothed. 6—8 i. *S.* R. T. O. F. N. V.

laciniata, W. (3) (W. w. M. 2ℓ.) leaves in threes, ternate; leafets 3-parted, segments oblong, gash-toothed: root tuberous, moniliform. 8 i. *S.* T. Y. D. N. M. O. P. C. Niagara.

heterophylla, N. (W. p. *sw.* J.) stem 2-leaved; leaves ternate, petioled: leafets linear, sub-lanceolate, acute, entire: margin rough, ciliate:

Delphinium. Gr. *delphin*, the dolphin, because the nectaries are like the head of that fish.

Dentaria. Lat. *dens*, a tooth, because the roots are furnished with projecting angles, which resemble the molar teeth of quadrupeds.

(1) tridactylum, MX. urceolatum, Ju. (2) carolinianum, Wr. (3) concatenata, MX.

radical leafets ovate oblong, coarsely gash toothed. Very small. Always one radical leaf with a long petiole. P.

maxima, N. (W. p. 2ℓ.) leaves numerous, alternate, petioled; leafets ternate, sub-oval, gash-toothed; lateral ones lobed: axils without glands: racemes lateral and terminal. 12—18 i.

Southern.

multifida, M. (p.) stem 2-leaved: leafets many-parted, segments linear, somewhat acute. 10 i.

tenella, Ph. (W. p. Ap. 2ℓ.) stem 2-leaved: leaves distant, sessile, ternate; leafets linear-oval, entire; petals wedge-form.

dissecta, (1) (p. Mar.) glabrous, erect: stem 2-leaved: leaves many-cleft: divisions linear: flowers racemed. 4—5 i.

Desmodium, HEDYSARUM.

Diamorpha, SEDUM.

10—2. DIAN'THUS. 22. 82.

armeria, L. (pink. r. Ju. ☺.) flowers aggregate, fascicled: scales of the calyx lanceolate, villose, equalling the tube. 1 f. Introduced. New Jersey. C. B.

Exotic.

barbatus, (sweet william. r. & w. Ju. 2ℓ.) flowers fascicled: scales of the calyx ovate, subulate, equalling the tube: leaves lanceolate.

caryophyllus, (carnation. r. & w. 2ℓ.) flowers solitary: scales of the calyx sub-rhomboid, very short: petals crenate, beardless: leaves linear-subulate, channelled. By rich culture, the stamens mostly change to petals.

chinensis, (china pink. Ju. ☺.) flowers solitary: scales of the calyx subulate, spreading, leafy, equalling the tube; petals crenate: leaves lanceolate.

plumarius, (single pink. r. & w. 2ℓ.) flowers solitary; scales of the calyx sub-ovate, very short and obtuse, awnless: corol many-cleft, with the throat hairy.

Southern.

carolinianus, Wr. ( ) flowers aggregate: peduncles long: scales smaller than the halved tube.

5—1. DIAPEN'SIA. 21. 44.

lapponica, W. (2) (A. w. Ju. 2ℓ.) cespitose: leaves spatulate, glabrous: flowers pedunculate; anthers oblique, awnless. White hills. Bw.

cuneifolia, Sy. (3) (A. w. J. ♄.) creeping; leaves lance wedge-form, pubescent below, flowers sessile: anthers horizontal, beaked at the base. S. Y. White hills, Peck.

Dianthus. Gr. *Dis. (Dios)* Jupiter, and *anthos*, flower; so called from the fragrance and elegance of the genus.

Diapensia. An ancient Gr. name of the Sanicle as a vulnerary.

(1) M. C. Leavenworth. (2) obtusifolia, Sy.

(3) Pyxidanthera barbulata, Mx.

3—2. DIARRHE'NA. 4. 10.

americana, M. (W? Ju. 2ℓ.) culm erect, almost naked, slender, slightly compressed, scabrous above: sheaths sub-pubescent: panicle racemed: branches few-flowered, appressed: spikelets about 2-flowered: florets diverging.

5—2. DICHON'DRA. 29. 44.

Southern.

caroliniensis, Mx. (p. J. 2ℓ.) pubescent: leaves reniform-emarginate, one-coloured: calyx villose ciliate. Creeping.

Dichroma, DICHROMENA.

3—2. DICHRO'MENA. 4. 9.

leucocepha'la, Mx. (Au. 2ℓ.) involucre somewhat 3-leaved, white at the base: head white. 1 f. C. Charleston, S. C.

Southern.

ciliata, Ph. (Ju.) involucre and leaves ciliate at the base: spikelets oblong, tapering.

latifolia, Bald. (J. 2ℓ.) involucre many-leaved, large, with the leaves white: heads compressed: leaves very long, loosely sheathing the stem. 9—18 i.

21—1. DICKSO'NIA. 55. 5.

pilosiuscula, W. (1) (fine haired fern. Ju. 2ℓ.) frond bipinnate: leaves decurrent, ovate-oblong, pinnatifid: divisions somewhat 4-toothed: fruit dots solitary: rachis pubescent: stipe glabrous. 2—3 f. S. C. P. H.

Diclytra, CORYDALIS.

5—1. DIERVIL'LA. 48. 58.

canadensis, M. (2) (bush honey suckle. O. y. J. ♄.) peduncles axillary and terminal, dichotomous, 2-3-flowered; leaves ovate, serrate, acuminate. 2—3 f. S.

Diarrhena. Gr. *dis*, two, *arrene*, rough, alluding to the two rough keels on the upper chaffs.

Dichondra. Gr. *dis*, two, and *chondros*, a grain: from the double nature of the capsule.

Dichromena. Gr. *dis*, two, and *chroma*, color, alluding to the variegation of white and green in the corol.

Dicksonia. In honor of James Dickson, a distinguished Cryptogamic botanist of Great Britain.

Diervilla. In honor of M. Dierville, a French surgeon who discovered it.

(1) pubescens, Sh. Aspidium punctilobum? W. Nephrodium punctilobium, Mx.

(2) lutea, Ph. humilis, P. tournefortii, Mx. Lonicera diervilla, L.

13—2. DIGITA'LIS. 40. 37.

Exotic.

purpurea, (foxglove, p. Ju. ♂.) leafets of the calyx ovate, acute: corol obtuse: upper lip entire; leaves lance-ovate, rugose.

intermedia, (p. Ju.) leafets of the calyx lanceolate, equal: corol slightly pubescent; upper lip emarginate, 2-cleft: leaves pubescent at the margin and base.

3—2. DIGITA'RIA. 4. 10.

sanguinalis, Scop. (finger grass, crab-grass. W. S. ☺.) spikes numerous, fascicled, a little spreading: leaves and sheaths somewhat hairy: spikelets oblong: florets pubescent on the margin. 1—2 f. *S.* C. T. O. F. P. N. V.

glabra, R. & S. (W. Au. ☺.) spikes digitate, sub-alternate (3—4,) spreading: leaves and sheaths smooth; spikelets ovate, crowded: calyx equal to the abortive floret, both hairy. 1 f. C.

serotina, Mx. (W. 2ſ.) decumbent: leaves and sheaths very pubescent: spikes numerous, setaceous: spikelets all pedicellate: inferior glume very minute. 12—18 i. *S.* C. T.

filiformis, E. (W. Au. ☺.) culm erect, filiform; leaves somewhat glabrous: spikes 2—4, filiform, erect: spikelets in threes, all pedicellate: calyx 1-valved, as long as the abortive floret, pubescent. 12—18 i. *S.* Y. P. C. M. N.

paspaloides, Mx. (Au. ☺.) spikes in pairs, sub-villose at the base: rachis broadish, glabrous; flowers solitary, imbricate two ways, glabrous: leaves spreading; sheaths glabrous, villose at the neck: culm creeping. *S.* Y. P. N.

3—1. DILA'TRIS. 6. 18.

tinctoria, Ph. (1) (red-root. y. Ju. 2ſ.) petals lanceolate, downy outside: panicle corymbed, downy: leaves long, naked, linear. 2 f. *S.*

4—1. DIO'DIA. 47. 57.

virginica, W. (w. Au. 2ſ.) glabrous: stem procumbent, nearly terete: leaves lanceolate: corol glabrous within: fruit oblong, glabrous. *S.* Charleston, S. C.

Southern.

tetrago'na, Wr. (w. M. 2ſ.) stem procumbent, somewhat angled, nearly glabrous: leaves cordate-ovate: stipules subulate.

hirsuta, Ph. (w. S. 2ſ.) hirsute: stem procumbent: leaves lanceolate: stipules nearly setaceous. Perhaps a variety of the last. E.

Digitalis. Lat. *digitulo*, a thimble, or finger of a glove, from the resemblance of the flowers.

Digitaria. Lat. *digitus*, a finger, the spikes being digitate or finger like.

Dilatris. Gr. *dis*, double, and *latris*, servant or attendant, because Bergius found two long, and one short stamen.

Diodia. Gr. *diodos*, way or passage, in allusion to its growing by way sides.

(1) heritiera, P. Lachnanthes, E.

teres, Wr. (1) (W. Ju. ☉.) stem terete, procumbent: leaves lance-linear: lobes of the stipules, setaceous, longer than the fruit: corol bearded within: fruit ovate, pubescent; crowned with the 4 lanceolate lobes of the calyx. 4—12 i. S. P. Y. Charleston, S. C.

10—1. Dionæ'a. 20. 68.

Southern.

muscipula, W. (venus' fly-trap. w. Ju. 2ſ.) radical leaves, with terminal ciliate appendages, somewhat resembling a rat-trap; this is suddenly closed on being irritated.

20—6. Diosco'rea. 11. 12.

villosa, L. (2) (yam root. J. 2ſ.) leaves alternate, opposite and whorled, cordate, acuminate, pubescent beneath, 9-nerved; lateral nerves simple. Stem climbing. S. P. Y. C. B. F. D. Owego.

quaternata, Wr. (3) (J. 2ſ.) leaves verticillate by fours, and alternate, cordate, acuminate, glabrous, 7—9-nerved; lateral nerves divided. Stem climbing. P M.

20—13. Diospy'ros. 18. 49.

virginiana, (persimmon, seeded plum. w-y. M. ♄.) leaves ovate-oblong, acuminate, glabrous, reticulate-veined: petioles pubescent: buds glabrous. Var. *pubescens*, leaves oblong, acute, pubescent beneath: petioles long: fruit bearing few seeds. This is made a distinct species by Pursh. S. Y. P. F. C. O.

19—4. Dio'tis. 12. 29.

Southern.

lanata, Ph. (W. J. ♄.) all over hoary-tomentose; stem flexuous: glomerules of the spikes very crowded.

6—1. Diphyll'ia. 54. 78.

Southern.

cymosa, Mx. (A. w. J. 2ſ.) very glabrous: leaves sub-palmate, angularly lobed, serrate: lobes acuminate; cyme many-flowered.

17—2. Diplopap'pus. 49. 55.

albus, Lind. (W. y. w.) leaves lance-linear, sub-entire, scabrous, base

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Dionæa. From Dione, a name of Venus, from the elegance and delicacy of its flowers.

Dioscorea. In honor of the Greek botanist, Dioscorides.

Diospyros. Gr. *Dios*, Jupiter, and *puros*, fruit, from the excellence of the fruit.

Diotis. Gr. *dis*, double, and *ous*, *(otos)* ear, from the two appendages which exist at the base of the florets.

Diphyllia. Gr. *dis*, double, and *phullon*, leaf, because the plant has two leaves.

Diplopappus Gr. *diploos*, double, *pappos*, woolly flower or egret, on account of the egret being in a double series.

(1) Spermacoce diodea, Mx.

(2) paniculata, Mx. (3) glauca, M.

long, narrow below, petioled: stem simple, corymbed, scabrous, branchlets somewhat 1-flowered, sub-aphyllous: leafets of the involucre oblong-linear, sub-glabrous, obtuse. D.

canescens, H. ( ) hoary-pubescent: leaves lance-linear, very entire: very narrow at the base below, long petioled: stem simple corymbose; branchlets 1-flowered, long, leafy: leafets of the involucre narrow, very acute, hirsute-scabrous. A.

grandiflorus, H. ( ) canescent: stem sub-decumbent, branching below the base: leaves linear-oblong below; spatulate; branches mostly simple, one-flowered, nakedish: leafets of the involucre narrow, very acute, hirsute-scabrous. R.

incanus, Lindl. (p.) wholly whitish: leaves linear, soft, distant, acute finely mucronate: branches long, corymbose, forming a head, apex naked: leafets of the ovate, glandulous involucre linear, in many series, outer ones squarrose 2¼ f. A.

filifolius, H. (y.) hoary: leaves all linear-filiform: branches long, sub-corymbose, one-flowered, leafets of the involucre imbricate, narrow, acute, pubescent-scabrous: egret white. 10—12 i. R.

linearis, H. ( ) low: stems sub caespitose, erect, simple, apex nakedish, one-flowered: leaves all linear-filiform, sub-spatulate, flower terminal: leafets of the involucre narrow, pubescent-scabrous, egret yellow. 4—6 i. R.

pinnatifidus, H. (y. 2[.) stems numerous from the same root, erect, much branched above, corymbs many-flowered: leaves sub-bipinnatifid, segments narrow-linear mucronate with terminal hairs; leafets of the involucre linear subulate, mucronate, pubescent. R.

hispidus, H. (y.) wholly hairy, hispid with spreading hairs: leaves oblong-spatulate, narrow at the base, sub-petioled: branches sub-corymbose; leafets of the involucre narrow, acute, somewhat glabrous, egret downy. A.

4—1. DIPS'ACUS. 48. 56.

sylvestris, L. (wild teasel. O. b. Ju. ♂.) leaves connate, and opposite, sinuate: chaff straight: head involucred. 3—4 f. S.

Exotic.

fullo'num, (teasel. w. Ju. ♂.) leaves sessile, serrate: chaff hooked. 3—6 f.

8—1. DIR'CA. 31. 25.

palustris, W. (leather-wood, moose-wood, american mezereon. W. y. Ap. ♄.) leaves oval: flowers axillary, 2 or 3 in a hairy bud-like involucre. Small bush: bark very tough. 1—5 f. S. T. C. O. F. D. P. N. V.

5—2. DISCOPLEU'RA. (1) 45. 60.

capillacea, Dc. (bishop weed. w. Au. ☉.) erect or procumbent: umbels

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Dipsacus. Gr. *dipsakos*, teasel, also diabetes. It is from *dipsa*, thirst; as the diabetes excites thirst, and the teasel was used as a remedy.
Dirca. Gr. *dirka*, a fountain or wet place, its usual place of growth.
Discopleura. Gr. *diskos*, disk, *pleura*, side, in reference to the fruit.
(1) Sison. Ammi, Mx.

3—10-rayed; leafets of the involucre 3 to 5, almost all trifid. Wet. Carolina to Boston. C. N.

nuttallii, Dc. (☉.) erect: umbels with 20 rays: leafets of the involucre mostly 5—6; involucel 5-leaved, about equalling the little umbel. Red river.

5—1. Dodeca'theon. 20. 35.

meadia, W. (false cowslip. W. p. M. 2f.) leaves oblong-oval, repand-toothed: umbels many flowered, lax: bracts oval. Woods near rivers. 8—10 i. *S.* P. H.

integrifolium, Mx. (W. b. J. 2f.) leaves sub-spatulate, entire: umbels few-flowered, straight: bracts linear. P.

16—10. Do'lichos. 32. 93.

purpureus, L. (wild cowhage. p. ☉.) twining: stem glabrous: petioles pubescent: corol with spreading wings. P.

Exotic.

pruriens, (cowage, or cowitch. p. ☉.) twining: leaves hairy beneath: legumes in racemes: valves slightly keeled, hairy: peduncles in threes.

Southern.

luteolus, W. (w-y. Ju. ☉.) climbing, pubescent: leafets ovate, acuminate: peduncles longer than the leaves: spikes short, somewhat capitate: banner broad, reflexed; wings rhomboidal. 4 f.

17—2. Don'ia. 49. 55.

Southern.

squarrosa, Ph. (W. y. Au. 2f.) herbaceous: leaves clasping, serrate: scales of the calyx filiform at the apex, squarrose, revolute. Whole plant viscous. 3—4 f.

lanceolata, W. (♂.) glabrous: leaves half clasping, linear-lanceolate, cut-serrate; scales of the calyx filiform, straightish. Arkansas.

pubescens, N (♂?) leaves clasping, oblong-ovate, acute, sharply serrate: branches fastigate, pubescent, somewhat 1-flowered. Arkansas.

Doronicum, Arnica.

14—1. Dra'ba. 39. 63.

carolinianа, Wr. (1) (W. w. Ap. ☉.) flower-bearing stems naked: leaves oval, acute, very hirsute: silicles long-linear, glabrous, approximate. 1—2 i. *S.* Y. C.

Dodecatheon. Gr. *dodeka*, twelve, and *theos*, divinity. An old name renewed by Linneus on accaunt of its beauty.

Dolichos. Gr. *dolichos*, long; so called from its long stem.

Donia. In honor of John Don, an acute Scotch botanist.

Draba. Probably from Gr. *drassō*, to sneeze, from the effect it has on the nose when eaten.

(1) umbellata, M. hispidula, Mx.

nivalis, W. (☉.) scape about one-leaved, ascending: leaves lanceolate, very entire, sub-tomentose, with stellate hairs: petals retuse.

glabella, Ph. (☉.) scape about 2-leaved, erect: leaves lance-spatulate, somewhat glabrous: raceme dense-flowered: silicle lance-ovate, acute.

incana, W. (J. ♂.) cauline leaves hoary, numerous, with interwoven stellate hairs: silicle oblong, oblique, mucronate with a very short style. R.

arabizans, Mx. (1) (W. M. ♂.) stem leafy, rarely branched: radical leaves wedge-lanceolate; cauline ones lanceolate, acute: silicles acuminate with the permanent style. S. P. New-England. Canada.

alpina, L. (S. Ap. ♃.) scape naked, simple: leaves lanceolate, entire, spreading: petals sub-emarginate. R.

hirta, L. (Rough whitlow grass. w. Ap.) scape few or one-leaved: leaves oblong, acute, dentate, somewhat hirsute: silicle oblique, pedicelled. R.

glacialis, Hk. (W. y.) scape naked: leaves lance-linear, rigid, entire, radiate-hairy: petals twice as long as the calyx: silicles long-racemed, oblong-ovate: style short. Rocky Mts.

algida, Dc. (L. y.) flaccid: scape short, naked, spread-pilose: leaves oblong, flat: leaves and calyx pilose; hairs mostly simple: silicles sub-corymbed, elliptic, glabrous.

oligosperma, H. (w.) scape naked, sub-pubescent: leaves erect, rigid, linear, ciliate, somewhat shining, on both sides, but especially towards the apex, stellately pubescent: petals twice as long as the fine haired calyx: silicles pubescent, long-racemed, elliptic, acute at both ends, 4—8-seeded: style ½ as long as the silicle. A.

pauciflora, H. (y.) scape leafless; scape and pedicels pilose: leaves lanceolate, very entire: hairs simple and forked: petals spatulate, scarcely longer than the hirsute calyx: germ glabrous. A.

micropetala, H. (w.) scape leafless; scape and pedicels pilose: leaves broad-lanceolate, somewhat veiny, entire; hairs forked and simple: petals narrow-spatulate, scarcely exceeding the sub-pilose calyx: silicles elliptic: stigma sessile, emarginate. A.

muricella, Dc. (w.) scape naked, velvety leaves oblong, entire, stellately pubescent; bluish-velvety: silicles lance-oblong, glabrous. A.

oblongata, Dc. ( ) scape naked, sub-hirsute, with woolly pubescence: leaves cespitose, oblong-linear, entire, ciliate and velvety silicles oblong-oval, velvety. A.

corymbosa, Dc. ( ) scape naked, finely hispid: leaves densely cespitose, oblong, tapering to the base, ciliate and sub-hispid: silicles oval, corymbose, finely hispid. A.

rupestris, Br. ( ) scape naked or 1-leaved, pubescent: leaves oblong-spatulate, sub-hirsute and ciliate: silicles oblong, pubescent or glabrous: style very short; stigma emarginate. R. Probably identical with D. *nivalis*. W.

lapponica, Dc. ( ) scape naked, very glabrous: leaves lanceolate, very entire, fine-haired: silicles lance-ovate, pedicelled and very glabrous. A.

stellata, Dc. scape 1-leaved, pubescent: leaves oval-oblong with short stellate pubescent down: pedicels fine-haired: siliques oblong. A.

laevipes, Dc. ( ) scape naked or one-leaved, pubescent: leaves ovate with short stellate pubescent down: silicles long-linear, pedicelled, very glabrous. R.

(1) Arabis, P.

crassifolia, Graham, (w. y.) scape naked or one-leaved: pedicels and calyx very glabrous: leaves linear-spatulate, sub-fleshy, with simple ciliate hairs: petals retuse at the apex, a little exceeding the calyx. R.

confusa, Dc. ( ) stem leafy, sub-ramose, short-velvety with stellate pubescence: leaves oblong, sub-dentate: silicle oblong, pubescent, longer than the pedicel. R.

unalaschiana, Dc. stem leafy with simple pubescence: leaves ovate-oblong, entire, pubescent: silicles oblong, finely hirsute: petals twice as long as the calyx, limb obovate, emarginate. A.

aurea, Vahl. (A. y.) pubescent: stem erect, leafy: leaves lanceolate or lance-ovate, acute, entire or dentate: corymbs terminal and axillary: silicles lance-oblong, pubescent, 3 times as long as the pedicel: petals emarginate: style rather long. R.

lutea, Gilib. (y.) pubescent: stem ramose, leafy: leaves oval; cauline ones lanceolate, dentate: silicles elliptic-oblong, glabrous, about 30 seeded, about ½ as long as the pedicel. A.

muralis, L. (w.) pubescent: stem ramose, leafy: leaves broad-ovate; cauline ones cordate, sub-amplexicaule, deeply toothed: silicles oval-oblong, about 16 seeded, a little shorter than the pedicel.

Southern.

nemoralis, W. (W. y. M.) sparingly branched: radical leaves spatulate oblong; cauline ones sessile, or clasping, ovate, sub-dentate: silicle pubescent.

Draba, EROPHILA.

Dracaena, CONVALLARIA.

13—1. DRACOCEPH'ALUM. 40. 42.

virginianum, W. (dragon-head. W. p. Au. 2ℓ.) spikes elongated, with the flowers crowded: bracts subulate: teeth of the calyx nearly equal, short: leaves linear-lanceolate, serrate. 1—2 f. S. P. Niagara Falls.

denticulatum, W. (1) (W. p. Ju. 2ℓ.) spikes elongated, with remote flowers: bracts subulate: teeth of the calyx nearly equal: leaves obovate lanceolate, toothed above. P.

variegatum, Vent. (2) (W. p. J.) spikes short, square: bracts ovate, acuminate, as long as the calyx: teeth of the calyx somewhat unequal: leaves closely sessile, oblong-lanceolate, toothed near the summit. H.

Exotic.

canariense, (balm of gilead herb.) flowers spiked: leaves ternate oblong.

Southern.

cordatum, N. (W. b. J. 2ℓ.) stem and petioles pubescent: leaves cordate, obtusely crenate, somewhat hirsute above: spikes secund: pedicels 2-bracted.

Dracocephalum. Gr. *drakōu*, a dragon, and *kephalē*, head. A name applied in the same sense as Lamium, Galeopsis.

(1) Prasium purpureum, Wr. (2) Prasium incarnatum, Wr.

parviflorum, N. (W. w. Ju. ♂.) flowers verticillate, sub-capitate: leaves ovate-lanceolate, deeply serrate, petioled, bracts foliaceous, ovate, ciliate, serrate; serratures mucronate: teeth of the calyx unequal, scarcely shorter than the corol.

Dracontium, Ictodes.

5—6. Drose'ra. 20. 68.

rotundifolia, (sun-dew. O. y-w. Au. 2ſ.) scape simple: leaves nearly orbicular, narrowed at the base: petioles long, downy. Var. ***capillaris***, leaves spatulate. Wet or damp. 4—8 i. *S.*

longifolia, (1) (W. y-w. Ju. 2ſ.) sub-cauline, many-leaved; leaves slenderly spatulate (or obovate and long petiolod;) petioles naked: peduncle (o scape) naked. Wet. 3—6 i. *S.* T. P. Y. C. B. N. D.

filiformis, R. (2) (p. J. 2ſ.) scape sub-ramose, terete, glabrous: leaves very long, filiform: styles 6 to 9. Wet. 1 f. Y. C. B.

linearis, Goldie. (2ſ.) leaves linear, obtuse: petals very long, naked: having a few-flowered scape: calyx glabrous. Lake Simcoe. in Canada, and Vermont. Doubtful. R. D.

Southern.

brevifolia, Ph. (w-r. J. 2ſ.) very small: scape rooting, simple: leaves short, wedge-form, scarcely petioled: petals oval.

foliosa, E. caulescent: leaves crowded, oval, cuneiform at the base, on long naked petioles. 4—6 i.

5—2. Drummondia. 13. 84.

mitelloides, Dc. (y. 2ſ.) leaves radical, petioled, cordate, orbicular, lobed, doubly crenate; scape erect, long, spike racemed. R.

11—13. Dry'as. 35. 92.

integrifolia, Vahl. (3) (A. w. Ju. 2ſ.) small-leaved; leaves ovate, acute, cordate at the base, very entire, flat, white-tomentose beneath: peduncles one-flowered. White Hills.

octopetala, W. (mountain avens. A. w. Ju. 2ſ.) leaves ovate-oblong, coarsely toothed, rugose, white-tomentose beneath: peduncles one-flowered.

drummondii, Rich. (y.) leaves elliptic, sub-attenuate at the base, crenate-serrate: under side and prominent veins white-tomentose: segments of the calyx ovtae. A. R.

3—1. Duli'chium. (4) 3. 9.

spatha'ceum, Rd. (galingale. O. g-y. Ju. 2ſ.) stem columnar, 3-cornered

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Drosera. Gr. *drosos*, dew, from the moisture which exudes from the leaves.

Drummondia. In honor of Drummond, an eminent Scotch botanist, who made numerous discoveries in the Botany of N. America.

Dryas. Named by Linneus from the Dryodes, sylvan goddesses, to whom the oak *(drus)* was sacred: the leaves resembling those of the oak.

Dulichium. Gr. *du (duo)* two, and *lichen*, scab or scale, in allusion to the two-ranked scale-like glumes.

(1) americana, M. (2) tenuifolia, M. (3) tenella, Ph. (4) Schœnus, L. Scirpus, Mx. Cyperus, W.

above: leaves pointing in three directions: spikelets spreading, somewhat 6-flowered, subulate, in axillary racemes. Var. *canadense*, spikelets few, erect, somewhat 10-flowered. 1—2 f. *S.*

E.

17—5. ECHI'NOPS. 49. 54.

Exotic.

sphærocaph'alus, (globe thistle.) leaves pinnatifid: stem branching.

18—5. ECHI'TES. 30. 47.

Southern.

difformis, Wr. (w-y. M. Au. ♃.) climbing: lower leaves nearly linear; upper ones oval-lanceolate, acuminate: raceme corymbed: stamens included. Charleston, S. C. Florida.

5—1. ECHI'UM. 41. 43.

vulgare, *L.* (viper's bugloss, blue thistle. b. Ju. ♂.) stem tuberculate-hispid: cauline leaves lanceolate-hispid: spikes lateral: stamens exsert. 2—3 f. *S.* Y. M. P. F. C. B. H. Esopus.

17—2. ECLIP'TA. 49. 55.

Southern.

erecta, W. (w. Ju. ☉.) erect, dichotomous, strigose: leaves lanceolate, attenuate at the base, rarely serrate: peduncles by pairs, long: scales of the calyx ovate, acuminate. Charleston, S. C.

procumbens, Mx. (W. w. J. ☉?) decumbent or assurgent: leaves long, lanceolate, attenuate at the base: sub-serrate: scales of the calyx lanceolately acute: disk florets 4-cleft. 1—3 f. K. Harper's ferry.

brachypo'da, Mx. (W. Ju. S.) prostrate, divaricate: leaves lanceolate, sparingly serrulate: peduncles solitary and paired, short: scales of the calyx oval-lanceolate: disk florets 5-cleft.

4—1. ELÆAG'NUS. 31, 24.

argentea, Ph. (W. J. ♄.) unarmed: leaves undulate, oval-oblong, rather acute, covered with silvery scales: flowers aggregate, (sub-solitary, Ph.) nodding. *S.*

Echinops. Gr. *echinos*, a hedgehog, and *opsis*, appearance, alluding to its round, prickly heads.

Echites. Gr. *echis*, a serpent, on account of the twisting form of its shoots. The original plant was a kind of Clematis.

Echium. Gr. *echis*, a serpent, from the seed resembling a viper's head; or from the spotted stem, not unlike a snake's skin.

Eclipta. Gr. *ekleipō*, to be deficient, alluding to its wingless seed, by which it is distinguished from Verbesina.

Elæagnus. Gr. *elaia*, the olive; the tree having a striking resemblance to the olive tree.

Eleocharia, SCIRPUS.

17—5. ELEPHANTO'PUS. 49. 55.

carolinianus, (1) W. (elephant-foot. W. r. Au. 2[.) radical and cauline leaves oblong, narrowed at the base, pilose on both sides: stem erect, pilose, leafy. 2 f. S. P. Charleston, S. C.

Southern.

nudicaulis, E. (2) (r. Au. 2[.) radical leaves oval-lanceolate, crenate, serrate, sub-scabrous, hairy beneath: stem hairy, rough, nearly naked. 1—2 f.

3—2. ELEUSI'NE. 4. 10.

indica, Mx. (3) (dog-tail grass. wire grass. W. Ju. ☺.) spikes straight, erect in pairs or quarternate: rachis linear: spikelets lanceolate, about 5-flowered: culm compressed, declined. 8—12 i. S. Y. P. C. H. M. T.

Southern.

crucia'ta, E. (4) (Ju. O. ☺.) spikes quarternate, expanding, mucronate; spikelets about 3-flowered: exterior valve of the calyx awned: outer valve of the corol very acute. 12—18 i.

Eleusine, OXYDENIA.

8—1. ELLIOT'TIA. 18. 51.

Southern.

racemosa, M. (w. J. ♄.) leaves alternate, lanceolate, mucronate, entire, short petioled, pubescent and slightly glaucous beneath; racemes terminal.

5—1. ELLIS'IA. 41. 43.

Southern.

nyctelea, L. (5) (W. w. & b. J. ☺.) stem decumbent, branching, leafy, brittle: leaves alternate, petioled, pinnatifid, roughish: flowers solitary. 6—8 i

ambigua, N. (W. b. M. ☺,) stem decumbent, branching, glabrous, somewhat glaucous: leaves hirsute, lyrate-pinnatifid, sub-sessile: divisions sub-lanceolate, angularly toothed or lobed: racemes lateral and terminal. 4—6 i.

Elephantopus. Gr. *elephas*, elephant, and *pous*, foot, from the form and position of the leaves of one species.

Eleusine. A name of Ceres, who was considered as protecting the cultivation of nutritious grasses.

Elliottia. In honor of Stephen Elliott, author of a "Sketch of the Botany of S. Carolina and Georgia."

Ellisia. In honor of John Ellis, author of several botanical dissertations.

(1) scaber, Mx. (2) carolinianus, var. simplex, N. tomentosus, Ph? (3) Cynosurus, L.

(4) Chloris mucronata, Mx. (5) Polemonium, L.

Elodea, HYPERICUM, SERPICULA.

3—2. ELY'MUS. 4. 10.

virginicus, L. (wild rye. W. Ju. 2ſ.) spike erect, compressed: spikelets in pairs, 2—3 flowered: florets smooth: glumes lanceolate, nerved. 3—4 f. S. T. P. C. B. F. N. D.

canadensis, L. (W. Au. 2ſ.) spike nodding at the extremity, patulous; spikelets 3—5-flowered: florets hairy: glumes linear-subulate. Var. *glaucifolius*. (1) leaves glaucous. Var. *pendulus*, spikes pendant. Is this the philadelphicus, Ph? 3—4 f. S. T. C. N.

villosus, M. (lime grass. W. Ju. 2ſ.) spike a little nodding at the extremity, patulous: rachis and florets hispid, pilose: spikelets geminate, 2—3-flowered: glumes linear, pilose-ciliate, 2-nerved, shorter than the florets. 2—3 f. T. C. O. F. N.

hystrix, L. (hedgehog grass. W. Ju. 2ſ.) spike erect: spikelets diverging: calyx 0. 3 f. T. C. O. N. B. P.

striatus, W. (W. Ju. 2ſ.) spike erect: spikelets 2-flowered, awned, hispid, in pairs: calyx linear, nerved, awned, rather exceeding the spikelets: leaves and sheaths glabrous. 3—4 f. S. B, D.

Southern.

europeus, L. (Ju. 2ſ.) spike erect: spikelets 2-flowered, awned, as long as the smooth involucre.

2—1. ELYTRA'RIA. 40. 39.

Southern.

virgata, Mx. (J. 2ſ.) leaves entire near the summit and with the nerves underneath somewhat smooth: scales under the flower ovate, villous along the margin. 12—18 i.

20—3. EMPE'TRUM. 18. 96.

nigrum, Mx. (black crowberry. A. ♄.) procumbent: branchlets glabrous: leaves imbricate, oblong, glabrous, with a revolute margin. Whitehills. D.

conradii, T. (♄.) stem erect, branching: leaves with revolute edges meeting back on the midrib. 8 i. Pine barrens, N. Jersey. Exhibited before N. Y. Lyceum, by Dr. Torrey, Nov. 1835. I have not seen his written description.

12—2.5. ENE'MION. Raf. 26. 61.

biternatum, (W 2ſ.) leaves ternate. Probably the species of an old genus. Lexington, Kentucky.

18—5. ENSLEN'IA. 30. 47.

Southern.

al'bida, N. (W. Ju. y-w. 2ſ.) twining: stem marked with an alternat-

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Elymus. Gr. *eluō*, to fold up, alluding to the sheath which encloses the ear, in some of the original species.

Elytraria. Gr. *elutron*, a scale, having reference to the scaly sheaths of its stem.

Empetrum. Gr. *en*, in, and *petron*, a stone, referring to its habitation.

Enemion. Probably the name of an obsolete genus.

Enslenia. In honor of A. Enslen, a researcher in American botany. (1) philadelphicus, Sw.

ing pubescent line: leaves opposite, smooth, cordate-ovate, somewhat acuminate, sinuate at the base: corymbs axillary, many-flowered, long peduncled: pedicels and calyx pubescent.

18—1. EPIDEN'DRUM. 7. 21.

Southern.

conopseum, Ai. (y. Au.) stem simple: leaves lanceolate, rigid, lucid, perennial: spikes erect: lamina of the lip 3-lobed; middle one retuse: inner petals narrow. Parisitic.

10—1. EPIGAE'A. 18. 51.

repens, L. (trailing arbutus. W. r. & w. Ap. ♄.) stem creeping: branches and petioles very hirsute: leaves cordate-ovate. entire: corol cylindric. T. C. F. P. V.

Epifagas, EPIPHEGUS.

8—1. EPILOBIUM. 17. 88.

spicatum, Lk. (1) (willow herb. O. p. Ju. 2ℓ.) leaves scattered, lanceolinear, veiny, glabrous; flowers unequal bracted: stamens declined. 4—6 f.

opacum, Lehm. (2ℓ.) stem erect, pubescent; leaves sub-sessile, narrow-lanceolate, sub-entire, opakely veined: flowers axillary, solitary, peduncled; style reflexed, glabrous, shorter than the stamens. 12—18 i. R. A.

latifolium, L. (p. Ju. 2ℓ.) leaves alternate, lance-ovate, nearly entire, pubescent, without veins: flowers unequal. Var. *tetrapetalum*, leaves narrow, lanceolate, entire: stem low. R.

coloratum, M. (2) (O. r-p. Ju. 2ℓ.) stem terete, pubescent, leaves lanceolate, serrulate, petioled, opposite: upper ones alternate, glabrous, red veined. Var. *tetragonum*, has the stem 4-cornered part of its length. 3—4 f. *S.*

lineare, * M. (3) (w. & r. Ju. 2ℓ.) stem terete, pubescent, wand-like, branched above: cauline leaves opposite, branch-leaves alternate, linear, very entire: flowers few, terminal, long peduncled. 1—2 f.

molle, T. (W. w-p. Au. 2ℓ.) densely and softly pubescent: stem terete: leaves oblong-linear, sessile, very entire; lower ones opposite, upper ones alternate: flowers pedicelled, sub-terminal, regular. 12—18 i. F. N.

palustre, W. (marsh willow-herb. O. p. Ju. 2ℓ.) stem terete: leaves sessile, lanceolate, sub-denticulate: stigma undivided. Damp. *S.* W. P. N.

Epidendrum. Gr. *epi*, upon, and *dendron*, a tree, alluding to its parasitical growth.

Epigæa. Gr. *epi*, upon, and *gē*, the earth, the stem growing flat upon the ground.

Epilobium. Gr. *epi*, upon, and *lobos*, a pod: the flowers growing upon the end of a pod-like capsule.

(1) angustifolium, W. (2) lævigatum, Le Conte.

(3) oliganthum, Mx. rosmarinifolium, Ph. squamatum, N.

*This and the two following species are probably synonyms of the same plant. Aikin.

alpi'num, L. (A. w-r. Au. 2ℓ.) stem simple, sub-terete, 1 or 2 flowered: leaves opposite, oval, entire: flowers sessile. 1—3 i. Whitehills.

origanifolium, Lk. (r. w.) stem creeping at the base, somewhat glabrous, nodding at the apex: leaves sub-petioled, ovate, denticulate, upper ones acuminate: stigma undivided, clavate; capsules peduncled, glabrous. 6—12 i. R.

glandulosum, Lehm. (w.) stem simple, creeping at the base, angled, glabrous: leaves sessile, lance-ovate, sub-decurrent, acute, glandulous-denticulate: flowers erect: stigma clavate: capsules sessile, angled, very slenderly pubescent. A. R.

tetragonum, L. ( ) stem 4-cornered, erect, branching: leaves lance-oblong, serrulate, decurrent; flowers erect: stigma clavate; capsules short pedicelled; finely pubescent. R. A. Canada.

minutum, Doug. (r. ⊕.) stem sub-erect, terete, finely pubescent, branching: leaves alternate, lance-oval, obtuse, sub-entire, pellucid-punctate; flowers nodding, minute: stigma clavate; capsules short pedicelled, reflex-curved, somewhat glabrous. R. A.

luteum, Ph. (W. y. 2ℓ.) stem 4-cornered, somewhat glabrous: leaves opposite; upper ones alternate, lanceolate, acuminate, serrulate: peduncles axillary, alternate, elongated: divisions of the calyx narrow, as long as the petals: style exsert: stigma thick, 4-lobed.

densum, R. ( ) hairy: leaves near each other, scattered, sessile, lance-linear, nearly obtuse, nerved: panicles peduncled; bracts oblong.

leptophyllum, R. ( ) stem branching, sub-scabrous: leaves alternate; sub-sessile; linear narrow, entire; glabrous, 1-nerved, acute, narrowed at the base: flowers axillary, solitary, peduncled. Dense woods in Penn. and Md.

divaricatum, R. ( ) stem branching, glabrous: branches spreading: leaves opposite, petioled: petals lanceolate; acute, glabrous, unequally toothed.

tenellum, R. ( ) stem filiform, sub-simple: leaves opposite glabrous, sessile; narrow-linear, entire, acute, 1-nerved: flowers few, terminal, peduncled. Penn.

Epipactis, LISTERA.

13—2. EPIPHE'GUS, N. (1) 40. 36.

virginianus, (2) (beech drops, cancer-root. O. y. p. Ju. 2ℓ.) stem very branching: flowers alternate, distant; calyx short, cup-form, shorter than the capsule. The whole plant is yellowish-white, or brown, and of a naked appearance. 8—12 i. S. Astringent. Bw.

Epimedium, CAULOPHYLLUM.

21—1. EQUISE'TUM. 55. 5.

arvense, L. (horse-tail. O. Ap. 2ℓ.) barren stems with simple branches:

Epiphegus. Gr. *epi*, upon, and *phēgas*, the beech, it being parisitical on that tree.

Equisetum. Lat. *equus*, a horse, and *seta*, hair, alluding to the fine branches of all the species: or its general resemblance to the tail of a horse.

(1) Orobanche, L. (2) americanus, N.

the branches scabrous, 4-sided: fructification simple: sheaths cylindric, gash-toothed; teeth acute. 8 i. *S.*

hyema'le, L. (scouring rush. W. Ju. 2[.) stems erect, very scabrous, bearing spikes at the apex: sheaths 2-colored, withering at the base and apex: teeth with caducous awns. 2—3 f. *S.* T. C. B. O. V.

sylvaticum, L. (W. Ap. 2[.) barren and fertile stems doubly-branched; branches scabrous, deflected, 4-sided: branchlets somewhat 3-sided. *S.* T.

limosum, T. (W. Ju.) stems branched upwards, with the branches about 12 in a whorl, simple, pentagonal, smooth. 2—4 f.

scirpoides, Mx. (O. Ju. 2[.) stem simple, ascending, glabrous, filiform, bearing a spike at the top: sheaths 3-toothed; teeth withering, with caducous awns at the apex. 3—6 i.

uligino'sum, M. (2[.) stems erect, round, furrowed, nearly smooth, somewhat branched; branches from the middle joints unequal: sheaths serrate above; teeth even, acute, black. P. Y. W. C. B.

palustre, W. (W. J. 2[.) stem simply ramose, glabrous, sulcate: branches pentagonal, bearing spikes at their apexes. Y. C.

torreyanum, Stewart. (2[.) stems branched; branches thick, roughish, hexagonal, close-pressed to the stem: spike terminal. Perhaps not a distinct species. Y.

2—2. ERIAN'THUS. 4. 10.

Southern.

alopecuroides, L. (1) (p. S. 2[.) hair-like involucre much longer than the calyx: awns straight. 6—10 f.

brevibarbis, Mx. (p. S. 2[.) panicle somewhat spreading: hair-like involucre shorter than the calyx: awns straight. 3—5 f.

strictus, Bald. (p. Au.) involucre very short, or none: panicle closely appressed; branches remote: peduncles 2-flowered: awns straight, twice as long as the calyx. 4—6 f.

contortus, Bald. (Oc. 2[.) hairy involucre as long as the calyx; inner valve of the corol eared: awns spirally twisted.

8—1. ERI'CA. 18. 51.

Exotic.

pubescens, (downy heath. r. M.) corol linear, pubescent, with the limb erect: capsule glabrous: leaves fringed.

tet'ralix, (♄.) anthers awned: corol ovate: style enclosed; leaves in fours, ciliate: flowers in heads.

Erigenia. HYDROCOTYLE.

17—2. ERI'GERON. 49. 55.

alpinum, W. (p. Ju. 2[.) villose: stem generally 1-flowered: calyx villose: rays spreading: leaves lanceolate, obtusish. 2 i.

Erianthus. Gr. *erion*, wool, and *anthos*, flower, referring to the hairy involucre.

Erica. Gr. *ereikō*, to break, in allusion to the brittle branches of the plant.

Erigeron. Gr. *ēr*, the spring, and *gerōn*, an old man: because some species become old in the beginning of the season.

(1) saccharoides, Mx. Anthoxanthum giganteum, Wr. Andropogon, L. Saccharum giganteum, Ph.

bellidifolium, W. (1) (roberts plantain. O. b. & w. M. 2[.) hirsute, hoary: radical and lower cauline leaves obovate, sub-serrate; upper ones few, distant, lanceolate, sessile, entire: stem 3—8-flowered: rays long. 12—18 i. *S.*

integrifolium, Bw. (w. Ju. 2[.) stem simple, leafy, smooth: leaves lanceolate, entire, 3-nerved: flowers corymbed: calyx hemispherical: scales acute. 2 f. B. O. M. D.

purpureum, W. (O. p. Ju. 2[.) pubescent: leaves oblong, toothed, clasping; upper ones entire: peduncles thickened, corymbed; lower ones elongated: scales of the calyx hairy on the keel; rays twice as long as the calyx. 2 f. *S.*

compositum, Ph. (W. w-r. Ju. 2[.) pilose, somewhat stemless: radical leaves long-petioled, thrice 3-parted; divisions linear, divaricate; cauline leaves linear, generally undivided: stem naked above, 1-flowered. 8 i.

philadelphicum, W. (O. b-p. Au. 2[.) pubescent: leaves wedge-oblong, rarely gash-toothed; cauline ones half-clasping: stem weak, simple, corymbed above: peduncles elongated, 1-flowered: rays capillary, twice as long as the hemispherical calyx. 1—3 f. *S.*

strigosum, W. (O. w. Ju. ♂.) strigose-pilose: leaves lanceolate, tapering to both ends: in the middle are a few coarse teeth, or often entire: flowers corymb-panicled. 2—3 f. *S.*

heterophyllum, L. (2) (W. w. J. ♂.) radical leaves round-ovate, deeply-toothed, petioled: cauline ones lanceolate, acute, serrate in the middle: corymb terminal. 2—3 f. C. N. D.

nervosum, W. (3) (y. w. Ju. 2[?) white pubescent: leaves lance-linear, very entire, silky, nerved; flowers panicled.

hyssopifolium, Mx. (y. Ju. 2[.) stem panicled, with sterile branches, a few of them protracted into naked peduncles: leaves linear, glabrous, ciliate: rays much longer than the cylindric calyx.

canadense, L. (colts tail, flea-bane, pride-weed. O. w. Ju. ☺.) stem hispid, panicled: leaves lance-linear, ciliate: calyx cylindric: rays crowded, short. Var. *grandiflorum*, rays yellowish, flowers very large, short peduncled, crowded, terminal and axillary. Var. *pusillum*, low, smoothish: leaves lance-linear, entire, scabrous along the margin. This last variety is made a distinct species by Mr. Nuttall. 4 i.—3 f. *S.*

Southern.

pumilum, N. (4) (W. w. 2[.) hirsute: stem simple, 1-flowered: leaves linear, entire, sessile, without nerves: calyx hirsute. 4—5 i.

radicaule, Mx. (w. y. J. 2[.) glabrous: radical leaves lance spatulate, acute, slightly toothed: stem simple, nearly leafless, long: terminal corymb few-flowered: rays as long as the involucre. 2 f.

quercifolium, Lk. (b. w. Ju. 2[.) finely pubescent; leaves lanceolate, acute; radical ones somewhat lyrate, coarsely toothed; upper ones entire: stem sub-simple, few-flowered (3,) at the summit: rays twice as long as the calyx. Elliott thinks this and the philadelphicum may be the same. 8—10 i.

longifolium, Lk. (y. Au.) very glabrous: stem virgately panicled:

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(1) pulchellum, Mx. (2) Aster annuus, L.
(3) strigosum? E. (4) uniflorum, W? hirsutum, Ph.

branches straight: leaves very long-linear, straight: calyx ovate: rays scarcely longer than the calyx. Does it belong to this genus? E.

ambiguum, N. (w-y.) pubescent, somewhat scabrous: leaves linear; lower ones slightly serrulate: flowers small, generally in pairs, axillary and terminal: calyx hemispherical. 18 i.

asperum, N. (W. w. Au.) hirsute-scabrous: stem slender, about 2-flowered, leaves lanceolate, acute, entire: calyx hemispherical. 12 i.

glabellum, N. (W. w-b. Au. 2f.) leaves lance-linear, smooth, acute; radical ones long-petioled, lance-spatulate, nerved: stem pubescent above, 3—5-flowered: calyx pubescent. 12—18 i.

divaricatum, Mx. (W. Au. ☺.) decumbent, divaricate-branching: panicles sub-fastigiate: leaves subulate: florets of the disk 4-cleft.

19—4. ERIOCAU'LON. 6. 13.

pellu'cidum, Mx. (pipe-wort. W. g. Au. 2f.) scape very slender, about 7-striped: leaves linear-subulate, channelled, glabrous, pellucid, 5-nerved, reticulate: head small, globose: scales of the involucre oval-obtuse. Grows in water. 6—12 i. D. T. C.

decangulare, Mx. (1) (tall pipe-wort. w. S. 2f.) scape 10-striped: leaves ensiform, glabrous: heads large, depressed-globose: scales of the involucre ovate, acute: chaff of the receptacle mucronate. 3—4 f. S. P. Y.

flaxidulum, Mx. (Ju. ☺. or 2f.) scapes numerous, about 7-furrowed, sub pubescent: leaves short, subulate-ensiform: head convex: scales of the involucre roundish. 2—4 i. S

gnaphaloides, Mx. (2) (Ju. 2f.) scape sub-compressed, with 10 grooves: leaves short, subulate, ensiform, glabrous: heads hemispheric-convex: the involucre consists of shining scarious, oval, round-obtuse scales. 10—14 i. S. Sheffield, Mass.

Southern.

villosum, Mx. (M. S. 2f.) scapes numerous, compressed, about 4-furrowed, villous: leaves short, subulate, linear, hairy: head small spherical. Corol nearly black. 12 i. Charleston, S. C.

3—1. ERIOCO'MA. 4. 10.

Southern.

membranacea, Ph. (3) (W.) leaves convolute-filiform, glabrous: panicle lax: pedicels flexuose: scales of the calyx membranaceous, 3-nerved, long acuminate: corol shorter than the calyx, silky-villose, hairs exceeding the corol: awn naked, straight, a little longer than the calyx.

Eriocaulon. Gr. *erion*, wool, and *kaulos*, a stem, in allusion to the velvety stem of some species.

Eriocoma. Gr. *erion*, wool, and *komē*, a lock of hair, from the hairy corol.

(1) serotinum, Wr.

(2) decangulare, Wr. compressum, Lk.

(3) cuspidatum, N. Stipa, Ph.

9—2. Eriogo'num. 12. 28.

parvifolium, S. (W.) calyx naked: cauline leaves petioled, alternate, ovate, revolute, shining above, rusty tomentose beneath.

latifolium, S. (W.) calyx naked: cauline leaves alternate, petioled, cordate, undulate, white downy above, white-woolly beneath; petioles clasping.

tenellum, T. & J. (W. 2f.) stem dichotomous, naked, slender, very glabrous: branches elongated, bearing fascicles of flowers at their extremities: flowers very minute; divisions of the calyx roundish, obtuse, glabrous; leaves ovate, sub-cordate, white-downy beneath, (both sides when young) pubescent above. 12 i.

umbellatum, T. & J. (W. 2f.) stem naked, simple: peduncles elongated, (about in sixes) umbelled, bearing a single involucre at the apex: calyx glabrous: divisions obovate narrow at the base, obtuse: leaves obovate-spatulate, woolly beneath, somewhat glabrous above. 8 i.

Southern.

tomentosum, Mx. (Ju. 2f.) leaves oval, wedge-form at the base, glabrous above, white-downy beneath; cauline leaves in threes and fours; fascicles of flowers axillary solitary, sessile. 2 f. Charleston, S. C. Florida.

sericeum, Ph. (1) (W. y. Ju. 2f.) stem simple, naked: flowers fascicled, in terminal umbels, peduncled: umbel involucred: divisions of the calyx oblong, acute, silky-lanate: radical leaves petioled, lance-oblong, villose above.

pauciflorum, Ph. (W. w. 2f.) stem simple, leafy at the base: umbel few-flowered: flowers sub-sessile: leaves lance-linear, hoary-tomentose on both sides.

3—1. Eriopho'rum. 3. 9.

1. *Spike solitary.*

alpinum, L. (2) (Au. 2f.) culm triquetrous, somewhat scabrous, naked: leaves very short, subulate: spike oblong: woolly hairs crisped, few. 8—10 i. Whitehills. D.

vaginatum, L. (3) (Ju. 2f.) culm terete below, obtusely-triangular above, smooth and rigid; sheaths inflated: spike oblong-ovate: glumes scarious: wool straight, dense. 12 i. N. V. T.

2. *Spikes numerous.*

polysta'chyon, L. (4) (cotton grass. W. Ju. 2f.) leaves flat, triquetrous at the extremities: culm nearly terete: spikes nodding: peduncles scabrous. 18—24 i. Y. V. F. P. O. C. B. N. D.

virginicum, L. (moss-crop. J. 2f.) culm nearly terete below, obtusely triangular above: leaves flat, very long: spikes clustered, erect, sub-

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Erigonum. Gr. *erion*, wool, and *gone*, the knee, the stem of this plant being woolly at the joints.

Eriophorum. Gr. *erion*, wool, and *phero*, to bear, because the seeds are covered with a long down.

(1) flavum, N. (2) hudsonianum, Mx. Trichophorum, Ph.
(3) cespitosum, Ph. (4) tenellum, N. angustifolium, Bw.

sessile: involucre 2—3-leaved. Var. *gracile*, culm very slender, leaves almost filiform. 2—4 f. *S.* B. N. W. C. Y. T. P. D.

angustifolium, Roth. (J. 2f.) culm somewhat triangular: leaves channelled, triquetrous; peduncles very smooth. Var. *megastachyon*: culm somewhat triangular, short: involucre longer than the umbel: spikes peduncled, very large. Dr. Torrey thinks the E. *angustifolium* of Willd: is not found in this country, and the one so called by authors is a variety of the E. *polystachyon*. C. T. B.

15—5. ERO'DIUM. 14. 73.

cicutarium, W. (hemlock geranium. W. p. Ap. ☺.) stem prostrate or diffused, rough-haired: leaves gash-pinnate: segments sessile, gash-pinnatifid: peduncles double, many-flowered: petals unequal. Var. *bipinnatum*, W. caulescent, diffuse, segments pinnatifid, with linear lobes. 6 i.

Exotic.

ciconium, (stork-bill geranium. ☺.) peduncles many-flowered: leaves pinnate; leafets pinnatifid, toothed: petals oblong, obtuse: stem ascending.

moschatum, (musk geranium. ☺.) peduncles many-flowered: leaves pinnate: leafets sub-petioled, oblong, gash-toothed: petals equalling the calyx: stem procumbent.

14—1. EROPHI'LA. 39. 63.

vulgaris, D. (1) (whitlow grass. w. Ap. ☺.) silicles oval, shorter than the pedicels: scape 5-15-flowered. Var. *americana*, silicles oblong, almost 3 times longer than wide. Scape naked, leaves oblong, acute, sub-serrate, rough-haired; petals bifid: stigma sessile. 2—6 i. *S.* Y. M. P. H. C. Canada.

16—10. ER,VUM. 32. 93.

hirsutum, W. (2) (creeping vetch. L. p. J. ☺.) peduncles many-flowered: legumes hirsute, 2-seeded: leafets linear, truncate. C. Y.

tetraspermum, W. (3) (b. J. ☺.) peduncles mostly 2-flowered: legume smooth, 4—5-seeded: leaves oblong, truncate. C. T. Canada.

5—2. ERYN'GIUM. 45. 60.

aquaticum, Ju. (4) (button snake root. W. w-b. Ju. 2f.) leaves ensiform, fringed with soft spines; floral leaves undivided, very short. 3—4 f. *S.* P.

Erodium. Gr. *erodios*, a heron, because the fruit resembles the head and beak of that bird.

Erophila. Gr. *eros*, pleasant, *philos*, love. Sed quere.

Ervum. Lat. *ervum*, from *eruo*, to pluck out, because it was troublesome in fields.

Eryngium. Gr. *ēruggion*, the name of a prickly plant, which Dioscorides declares to be a specific against flatulence, from *ereugo*, to eruct.

(1) Draba verna, L. (2) Vicia mitchella. R. (3) vicia pusilla, M. (4) yuccifolium, Mx.

virginianum, Lk. (1) (g. & b. Ju. 2[.) very tall: leaves long-lanceolate, serrate: involucre much longer than the heads: chaff 3-cuspidate. 4—6 f. *S.* P. Y. C.

ovalifolium, Mx. (2) (sea-holly. W.L. b. Ju. 2[.) leaves spatulate-ovate, irregularly toothed: heads shorter than the involucre: chaff equally 3-cuspidate. 2—3 f. *S.* P. Y.

diffusum, T. & J. (W. w? ☺.) stem dichotomous-branched, diffuse: leaves all digitate-palmate; divisions oblong, gash-serrate, spinous: little heads sub-globose: leafets of the involucre 4—6, 3-cleft, gash-serrate, longer than the heads: germ squamose. 6—8 i. R.

petiolatum, H. ( ) stem dichotomous above; leaves with parallel nerves, lanceolate, attenuated into a long petiole, remotely ciliate-spinose, upper ones narrow, sessile; leafets and chaffs of the involucre, subulate, ciliate-spinose, rigid, twice as long as the little globose head. R.

americanum, Wr. ( ) leaves entire: radical ones roundish; cauline ones lance-ovate, trifid at the summit: stem procumbent. Carolina.

Southern.

fœtidum, W. (Ju. 2[.) radical leaves lanceolate, serrate: floral leaves many-cleft: stem dichotomous. 1 f.

aromaticum, Bald. (S. Oc. 2[.) stem leafy: leaves cuspidate, pinnate, 3-cleft at the summit, cartilaginous along the margins; involucre 5-leaved: leaves 3-cleft: chaff 3-pointed. 9—10 i.

gracile, Bald. (Ju. ☺.) leaves petioled, oval, entire: stem branching, slender; heads numerous, very small: involucre 2-leaved, 3-cleft, linear.

plukenetii, E. (w-b. J.) leaves long, linear-lanceolate, serrate: involucre 8-leaved, longer than the head: leafets dissected: chaff 3-awned. 2 f.

prostratum, N. (W. 2[.) surculus creeping filiform: leaves petioled, ovate, not prickly, membranaceous—some entire and others having teeth and lobes increasing from the base: little heads axillary, peduncled, ovate: leaves of the involucre 5, oblong-linear, entire, deflexed: chaffs linear, small, sometimes none: calyx papillose with vesicles. Arkansas.

baldwini, Sr. (W.) leaves petioled, oval: stem very branching, slender, often prostrate: little heads numerous, minute: leafets of the involucre twice 3-parted; lobes linear, somewhat toothed at the base. Florida.

14—2. ERY'SIMUM. (3) 39. 63.

nasturtium, L. (4) (english water cress. w. J. 2[.) salique short, declined: leaves pinnate, leafets roundish, repand, sparingly toothed. *S.* R.

palustre, L. (5) (W. y. Ju. ☺.) leaves lyrate-pinnatifid; lobes confluent, unequally dentate, smooth: petals about the length of the calyx: siliques short, turgid. 12—18 i. *S.* T. R.

Erysimum. Obscure: it is said to be from Gr *ερυω*, to draw, because it makes blisters, and is a cure for the sore throat.

(1) aquaticum, Mx. (2) virgatum, Lk. integrifolium, Wr.

(3) Sisymbrium of Authors. (4) Nasturtium officinale, T. (5) terrestre, S. Nasturtium T.

amphibium, W. (1) (water radish. O. y. J. 2ℓ.) silique (or rather silicle) oblong-ovate, declined: leaves lance-oblong, pinnatifid or serrate: petals longer than the calyx. Wet. 1—2 f. *S.* D. R.

vulgare, P. (creeping water-cress. y. J. 2ℓ.) silique declinate: leaves pinnate; leafets lanceolate, gash-serrate.

lanceolatum, Hk. (W.) pubescence two-parted, close-pressed, every where rough and white: stem sub-simple: leaves lance-linear, lower ones mostly toothed; claw longer than the calyx: pod long, erect: stigma emarginate. Canada.

Southern.

walteri, E. (y. Feb.—M. 2ℓ.) branching, procumbent: leaves pinnatifid; segments obtuse, sinuate-dentate; upper ones confluent: pods short, generally erect. Perhaps a variety of the palustre. 6—14 i.

cheiranthoides, (g.) leaves lanceolate, sub-dentate, somewhat scabrous. green: siliques, erect, spreading, twice as long as the pedicels; stigma small, sub-sessile. Flowers small. Virginia. Louisiana. D.

asperum, (W.) leaves linear-oblong; lower ones tooth-runcinate, all scabrous pubescent: siliques spreading, style short and thick. Missouri.

Erysimum, SISYMBRIUM, BARBAREA.

16—10. ERYTHRI'NA. 32. 93.

Exotic.

cristigalli, (coxcomb evergreen. r. M. ♄.) leaves ternate: petioles prickly, glandular: stem unarmed.

Southern.

herbacea, W. (r. M. 2ℓ.) small: leaves ternate; leafets rhomboidal, glabrous: spikes very long: stem herbaceous, prickly. 2—4 f. Florida.

6—1. ERYTHRO'NIUM. 11. 14.

americanum, S. (2) (dog-tooth violet, adder's tongue. O. y. Ap. 2ℓ.) leaves lance-oval, maculate: petals oblong-lanceolate, obtuse at the point; inner ones 2-dentate near the base: style clavate; stigma 3-lobed. (stigmas 3, Elliott.) 6—8 i. *S.*

albidum, N. (W. b-w. Ap. 2ℓ.) leaves elliptical-lanceolate: not punctate: petals linear-lanceolate, obtuse; inner ones without dentures, sub-unguiculate: style filiform: stigma 3-cleft, lobes reflexed. 6—8 i. *S.* K. Near Albany. Rare.

bracteatum, Bootl. (A. y. J. 2ℓ.) scape bracted, shorter than the leaves: leaves lanceolate, very unequal: style clavate: stigmas united? Vermont.

Erythrina. Gr. *erythros*, red, from its scarlet flowers.

Erythronium. Gr. *erythros*, red, in allusion to the color of the flower and leaves.

(1) Nasturtium T. (2) lanceolatum, Ph. longifolium, Pt. dens-canis, W.

grandiflorum, Ph. (W. w-y. J. 2f.) petals lanceolate, sub-unguiculate: acute: germ oblong: leaves linear-lanceolate. A species not satisfactorily defined. N.

Erythrorhiza, GALAX.

12—1. ESCHSCHOLT'ZIA. 27. 62.

california, (y.) leavss glaucous, 3-pinnatifid, with linear segments: flowers with a strong orange spot at each petal's base: stigmas two longer than other two: seeds globose, wrinkled.

17—2. ESPELE'TIA. 49. 55.

amplexicaulis, N. (y. 2f.) glabrous, shining: radical leaves very long, lanceolate; cauline ones clasping, sub-lance-ovate, acute; stem somewhat 3-flowered: seed elliptic, compressed. R.

helianthoides, N. (2f.) villose: radical leaves, very long, petioled, heart-hastate, oblong, acute; cauline leaves lanceolate, long, petioled: stem somewhat 1-flowered: leafets of the calyx smallish, lanceolate, acuminate. R.

13—2. EUCHRO'MA. (1) 40. 36.

coccin'ea, W. (painted cup. W. y. & r. J. ♂.) leaves alternate, linear, gash-pinnatifid; divisions linear: bracts dilated, generally 3-cleft, longer than the flowers: calyx 2-cleft, divisions retuse, emarginate. Flowers yellow, with scarlet bracts. One variety, *pallens*, has yellow bracts. 10—16 i. *S.* . O. C. M. F. B. N. D.

Southern.

grandiflora, N. (W. g-w. M. 2f.) leaves and bracts mostly 3-cleft; segments divaricate: calyx 4-cleft, partly oblique: corol longer than the calyx; divisions of the lower lip acuminate. Bracts not coloured.

5—2. EULO'PHUS. 47. 60.

ambiguus, N. (y. 2f.) glabrous, branching: leaves somewhat gash-biternate, lobes narrow-linear; petioles becoming tumid sheaths at the base: little umbels crowded: general and partial involucres wanting: root tuberous. R

triternatus, N. (y. 2f.) finely pubescent: stemless: leaves gash-biternate, with the partitions sub-divided in the middle, divisions narrow-linear, long, acute: petioles becoming narrow sheaths: little umbels crowded: involucels many-leaved, narrow. R. Seseli triternatum? Ph.

Southern.

americanus, Nut. (W.) root tuberous, oblong, fasciculate: stem terete, fistulous. Arkansas.

Eschscholtzia. In honor of a learned German botanist.

Espeletia. Gr. *esper*, evening, *teitos*, common.—Sed quere.

Euchroma. Gr. *eu*, beautiful, *chroma*, colour, alluding to the scarlet bracts.

Eulophus. Gr. *eulophos*, crested; from the appearance of the seed.

(1) Bartsia, L.

5—1. EUON'YMUS. 43. 95.

atropurpu'reus, Ju. (spindle tree, W. p. J ♄.) leaves petioled, lance-oblong, acuminate, serrate: peduncles divaricate, many-flowered; flowers 4-cleft: fruit smooth, red. 4—5 f. *S.* P. Y. R. M. D.

americanus, W. (burning bush. W. r-y. J. ♄.) branches 4-angled, smooth: leaves sub-sessile, lance-oval, acute, serrate: peduncles about 3-flowered; flowers all 5-cleft: fruit warty-muricate, red. Var. *sarmentosus*, N. stem sarmentose, often rooting, acutely 4-angled: leaves sub-sessile, opaque, lance-oval, acute, obtusely serrate: serratures generally undulate. 3—4 f. *S.* Y. P. D. M.

obovatus, N. (W. p-g. J. ♄.) stem prostrate, rooting: twigs erect, obtusely 4-cornered, with four distinct lines: leaves broad-obovate, obtuse, acute at the base, sub-sessile, acutely serrate, flat: peduncles 3-flowered. Stamens, as well as petals, sometimes but 4. 1 f. *S.* P. H. D.

Southern.

angustifolius, Lyon. (Ju. ♄.) branches 4-angled: leaves long-linear-elliptic, somewhat ensiform, nearly entire: peduncles about 1-flowered: flowers all 5-cleft: fruit roughened, warty. A doubtful species. Elliott.

17—1. EUPATO'RIUM. 49. 55.

1. *Calyxes not more than* 5-*flowered.*

hyssopifolium, L. (hyssop thorough-wort, hemp-weed, w. Au. 2ℓ.) stem erect: lowest leaves opposite, lance-linear, sub-dentate: corymb sub-fastigiate: style much longer than the corol. 2 f. *S.* C.

linearifolium, Wr. (w. S.) stem sub-procumbent, villous towards the summit: cauline leaves opposite, lance-linear, rarely dentate, sometimes clustered: style as long as the corol. 1—2f. *S.*

sessilifolium, W. (W. w. Au. 2ℓ.) leaves sessile, clasping, distinct, lance-ovate, rounded at the base, serrate, very glabrous: stem somewhat glabrous. 2 f. *S.* P. Y. F. N. T.

truncatum, W. (w. Ju. ♄.) leaves sessile clasping, distinct, lanceolate, truncate at the base, serrate, somewhat glabrous: stem pubescent. *S.* P.

album, L. (Au. 2ℓ.) leaves sub-sessile, lance-oblong, roughish, serrate: inner scales of the calyx long, lanceolate, scarious, coloured. 18—24 i. *S.* P.

lanceol itum, W (Au. 2ℓ.) leaves sessile, distinct, lance-oblong, scabrous, deeply serrate at the base: scales of the calyx one-coloured. *S.* P.

verbenaefolium, Mx. (1) (w. Au. 2ℓ.) leaves sessile, distinct, lance-ovate, rugose, scabrous; upper ones with coarse teeth at the base, and with the summit entire. 2 f. *S.* P Y. W. C. B. M. H. N.

melissioides, W. (w. Au. 2ℓ.) leaves petioled, ovate, obtusish, obtusely serrate, veiny, somewhat glabrous. 1—2 f. P.

Euonymus. Gr. *eu*, good, *nomos*, name; probably a favorite remedy, deserving a good name.

Eupatorium. Dedicated to Eupator or Mithridates, king of Pontus: who first used it as a counter poison.

(1) teucrifolium, W. pilosum, Wr.

rotundifolium, W. (w. Au. 2ℓ.) leaves sesile, distinct, deltoid, roundish, somewhat glaucous, obtusely-serrate, veiny: scales of the calyx acuminate. 12—18 i. *S.* P.

pubescens, W. (1) (w. Au. 2ℓ.) leaves sessile, distinct, ovate, subscabrous, veiny: lower ones doubly serrate, upper ones sub-serrate: stem panicled, pubescent; branches fastigiate. 18—24 i. *S.* Y. P. B. N.

altissimum, W. (W. w. Au. 2ℓ.) leaves sub-sessile: lanceolate, 3-nerved, tapering to both ends, pubescent; lower ones serrate in the middle. 3—7 f. *S.* P. F.

amoenum, Ph. (A. p. S. 2ℓ.) leaves with short petioles, opposite and in threes, lance-oblong, acute at both ends, serrate, sub-glabrous, subrugose, net veined beneath: corymb fastigiate, crowded: scales of the calyx oblong, coloured, acutish. 2 f. Y.

trifoliatum, W. (2) (p. Au. 2ℓ.) leaves petioled, in threes or fours, ovate, and oval, acuminate, serrate, pubescent beneath, punctate. 3—4 f. *S.* C. Y. N. F. P.

2. *Calyxes more than 5-flowered.*

ceanothifolium. W. (Au. 2ℓ) leaves petioled, ovate, acuminate, toothed, 3-nerved, somewhat glabrous: calyxes 5—10 flowered. 2 f. *S.*

purpureum, L. (trumpet weed, purple thorough-wort, joe-pye. O. p. Au. 2ℓ.) leaves in fours or fives, petioled, lance ovate, serrate, rugose-veined, roughish: stem hollow. Var. *laevigatum*, calyx about 5-flowered: leaves in fives, petioled, lanceolate, very glabrous both sides, slender: stem hollow, smooth, sub-glaucous. 4—6 f. *S.*

maculatum, W. (W. p. Au. 2ℓ.) leaves in fours or fives, lance-ovate, unequally serrate, pubescent beneath: stem solid, furrowed. 4—5 f. *S.* P. Y. W. C. N.

verticillatum, W. (3) (joe-pye's weed. W. p. Au. 2ℓ.) leaves petioled, in threes or fours, lance-ovate, acuminate at each end, unequally serrate, somewhat glabrous: stem solid, smooth. 4—6 f. *S.* B. C. T. D. F. P. N.

punctatum, W. (W. p. Au. 2ℓ.) leaves in fours or fives, petioled, ovate, acuminate, serrate, scabrous both sides: stem solid, terete. Is this a variety of the last? N. 3—5 f. P. Y. O. D. F.

perfoliatum, (4) (boneset, thorough-wort. O. w. Au. 2ℓ.) leaves connate-perfoliate, oblong-serrate, rugose, downy beneath: stem villose. 2 f. *S.*

coelestinum, W. (b. Au. 2ℓ.) leaves petioled, heart-ovate, obtushish, 3-nerved, obtusely serrate, slightly scabrous: calyx many-leaved, many-flowered: (30—40) receptacle conic. 2—3 f. *S.* P. Harper's Ferry.

ovatum, Bw. (w. Au. 2ℓ.) hairy, scabrous: leaves opposite, sessile, ovate, obtusely dentate: corymb fastigiate: calyxes about 8-flowered. 3—4 f. B.

aromaticum, Mx. (5) (w. Au. 2ℓ.) leaves petioled, cordate-ovate, (ovate, Ph.) acute 3-nerved, obtusely serrate, somewhat scabrous: flowers corymbed: scales of the calyx sub-equal. 2 f. *S.* B.

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(1) glandulosum, Mx. (2) ternifolium, G. E. (3) purpureum, Mx. (4) connatum, Mx. (5) cordatum, Wr.

ageratoides, W. (1) (w. Au. 2ℓ.) leaves petioled, ovate, acuminate, 3-nerved, unequally and coarsely toothed, serrate, glabrous: corymb many-flowered, spreading: calyx simple. 2—4 f. S. V. C. T. P. O. F. N. White Mts.

Southern.

foeniculaceum, W. (2) (y-w. S. 2ℓ.) stem panicled: leaves glabrous: lower ones pinnate; upper ones clustered; all filiform. 3—10 f. Charleston, S. C.

coronopifolium, W. (3) (w. S. 2ℓ.) stem panicled: lower leaves pinnatifid; divisions lance-linear, denticulate; upper leaves undivided, linear, clustered; all punctate, pubescent. 3—4 f.

cuneifolium, W. (w.) leaves petioled, obovate-lanceolate, slightly serrate at the summit, 3-nerved, pubescent on both sides. 1 f.

falcatum, Mx. (W.) without hair: leaves in fours, lance-oval, acuminate, at each end, sub-falcate, sparingly serrate: outer scales of the calyx short, oval.

pinnatifidum, E. (w. S. 2ℓ.) leaves pinnatifid; lower ones verticillate; upper ones alternate; divisions linear, pubescent: flowers corymbed. 3—4 f.

glaucescens, E. (w. S.) leaves nearly sessile, lanceolate, obtusely serrate, entire at the base, 3-nerved, somewhat glaucous, pubescent: flowers corymbed. 2 f.

parviflorum, E. (w. S.) leaves sessile, narrow-lanceolate, very acutely serrate, pubescent on both sides: flowers corymbed, small: seeds angled. 2 f.

serotinum, Mx. (w. S.) leaves petioled, lance-ovate, tapering towards the summit, acute, coarsely and acutely serrate, 3-nerved, pubescent: scales of the calyx imbricate. 5—6 f.

incarnatum, Wr. (p. Oc.) leaves long petioled, deltoid, cordate acute, obtusely toothed, 3-nerved, thin, nearly glabrous: scales of the calyx nearly equal. 2 f.

19—1.* EUPHOR'BIA. 38. 96.

1. *Flowers with involucred umbels.* (4)

corrollata, W. (W. Ju. 2ℓ.) umbel 5-cleft, 3-cleft, and dichotomous:

Euphorbia. Dedicated to Euphorbus, the physician of Juba, king of Mauritania, who first used it in medicine.

(1) urticaefolium, Mx. Ageratum altissimum, L. (2) foeniculoides, Wr. Chrysocoma capillacea, Mx. (3) compostifolium, Wr. Chrysocoma coronopifolia, Mx.

(4) This section comprises the genus Esula, 2d ed.

*Authors have differed much in regard to the location of this plant in the Linnean system. Linneus placed it in the Polyandria monogynia in his first edition—in the Dodecandria triginia in his sixth. Smith, Persoon, Muhlenburgh, and Bigelow, follow Linneus. Darlington places it in the Monoecia polyandria. Nutall says, the stamens are attached to the involucre, by which he supposes them sufficiently united to be placed in the Monoecia monadelphia. But it appears to me, that the German botanist, Roeper, has demonstrated in his *Enumeratio Euphorbiarum*, that it belongs to Monoecia monandria. He has shewn that each stamen has a distinct location, without any connexion with the pistil or with any other stamen.

involucels and leaves oblong, obtuse: petals obovate, and resembling appendages of the calyx. Var. *angustifolia*, E. leaves linear-lanceolate, sessile, paler and hairy beneath: umbel 3 cleft: rays elongated: upper branches dichotomous. 1—2 f. *S.* Y. T. P. H. N. D.

peplus, W. (wild caper, W. Ju. ☺.) umbel 3-cleft, dichotomous: involucels ovate: leaves entire, obovate, petioled. *S.* P. K.

obtusata, Ph. (W. Ju. 2ſ.) umbel 3-rayed, twice dichotomous: involucels ovate, obtusish, sub-cordate: leaves alternate, sessile, spatulate, serrulate, smooth: capsule muricate. 12—18 i. *S.*

mercu'ri'ali'na, Mx. (W. Ju. 2ſ.) stem slender, weak, simply 3-cleft: leaves opposite and ternate, sub-sessile, oval, entire: peduncles terminal, solitary, 1-flowered. *S.* P.

pilosa, W. (W. Ju. 2ſ.) umbel with 5 primary rays, bifid: involucels ovate: leaves lanceolate, somewhat hairy, serrulate at the extremity: petaloid segments of the involucre entire. 1—2 f. *S.*

helioscopia, L. (☺.) umbel with 5 primary rays, bifid: involucels obovate; leaves wedge-form, serrate, glabrous: capsules smooth. 12—18 i. T. B.

herronii, Riddell. (Au. S. ☺.) root small, branching and fibrous: stem erect, pilose; branches decussately opposite: petioles ciliate half as long as the leaves: lower leaves rhomb-ovate; those of the involucre lance-linear, dentate-serrulate, pilose above, veins and midrib very hairy beneath: umbels small terminal, involucred and few-flowered. Middletown, O.

2. *Flowers not in involucred umbels.*

hypericifolia, W. (spurge. eye bright. W. Ju. ☺.) dichotomous, glabrous, very branching, sub-erect, spreading: leaves opposite, serrate, oval-oblong, sub-falcate, short petioled: corymb terminal and axillary. Var. *hirsuta*, T? stem slender, hairy: leaves oblong, smooth, serrulate. 12—18 i. *S.* B. C. F.

maculata, L. (1) (W. Ju. O. ☺.) stem procumbent, or erect, branching, hairy: leaves opposite, oval or oblong, serrulate, oblique at the base, short petioled, smooth above, hairy, and pale beneath: flowers solitary and axillary, much shorter than the leaves. 6—12 i. *S.*

polygonifolia, Jn. (W. Ju. 2ſ.) very glabrous, diffused, succulent: leaves opposite, entire, lance-linear, obtuse at the base: flowers solitary, axillary: stipules simple. Y. P. B. C. D. F.

ipecacuan'hae, (W. Ju. 2ſ.) procumbent, small, glabrous: leaves opposite, oboval or lanceolate: peduncles axillary, elongated, 1-flowered. *S.* Y. P. F.

portulaccoides, Ph. (W. Ju. 2ſ.) erect: leaves entire, oval, retuse: peduncles axillary: 1-flowered, as long as the leaves. A variety of the corrollata? T. *S.* P.

dentata, Mx. (W. Ju. ☺.) hairy: leaves opposite, oval, dentate: flowers crowded at the summit of the stem. *S.* P.

Exotic.

lathyrus, (spurge caper. J. ♂.) umbel 4-cleft, dichotomous: leaves opposite, entire, lanceolate, pointing four ways.

(1) thymifolia? Ph. depressa, E.

Southern.

cyathophora, W. (O. Ju. ☉.) somewhat shrubby: leaves petioled, ovate, slightly toothed, panduriform; upper ones and involucres colored: flowers sub-umbelled. 2 f.

graminifolia, Mx. ( ) small, erect, branching at the base, finely pubescent: leaves scattered, linear, entire; upper ones discolored at the base: flowers fascicled, terminal.

thymifolia, L. (W.) procumbent, slender, pubescent: leaves opposite, oval-oblong, obtuse, slightly serrate near the summit: heads axillary, clustered, nearly sessile.

pubentissima, Mx. (w. Ju. 2f.) erect, very pubescent: stem somewhat dichotomous: leaves opposite, sessile, oval, sub-cordate, obtuse: peduncles solitary.

marginata, Ph. (W. w. Ju. ☉.) umbel 3-cleft, twice dichotomous: involucre leaf-like; involucels oblong, cordate, colored, membranaceous at the margin: leaves lance-oblong, sub-cordate-clasping, acute, becoming glaucous, glabrous: petal-like appendages of the calyx roundish: capsules pilose.

cordifolia, E. (w. M. ☉.) procumbent, glabrous, branching: leaves small, opposite, broad-oval, entire, cordate at the base: flowers axillary, solitary. 8—15 i.

gra'cilis, E. (J. 2f.) stem erect, dichotomous, glabrous: leaves opposite, remote, sessile, lance-linear: peduncles solitary, in the divisions of the stem, longer than the leaves. 12 i.

paniculata, E. (Au.) umbel 3-cleft, dichotomous: flowers terminal, somewhat panicled: leaves oval, sessile, slightly hairy beneath: stem sometimes hairy. 1—2 f.

hex'ago'na, N. (W.) tall, slender, very branching: leaves linear: flowers in axillary clusters.

variegata, leaves oval, entire, wavy, edged with white: capsules smooth: stem hairy. Missouri. Louisiana.

Euthama, SOLIDAGO.

13—2. EUPHRA'SIA. 40. 36.

officinalis, W. (eyebright. w. Ju. ☽.) leaves ovate, obtusely toothed: lower divisions of the lip emarginate. P. Canada.

latifolia, W. (A p. Ju. ☽.) leaves ovate, tooth-palmate: flowers spiked: corol tubular: divisions of the lower lip obtuse. Labrador.

5—2. EVOL'VULUS. 29. 44.

Southern.

argenteus, Ph. (W. p. M. 2f.) stem simple, erect: leaves oblong, acute, silky-tomentose on both sides: peduncles 1-flowered, short.

nummularis, (W. ☉.) leaves roundish: stem creeping: flowers sub-sessile.

sericeus, Sw. (1) (☉.) leaves lanceolate, sessile, silky beneath: peduncles short, 1-flowered.

Euphrasia. Gr. *euphrainō*, to exhiliarate, alluding to its reputed joyful effects in disorders of the eyes.

Evolvulus. Lat. *evolvo*, to roll outward, in opposition to Convolvulus. (1) nuttallianus, R.

17—2. Eury'bia. 49. 55.

macrophylla, Cass. Described under Aster *macrophyllus*.
corymbosa, Cass. Described under Aster *corymbosus*.

4—1. Ex'acum. 47. 46.

pulchellum, Ph. (gentianella. L. r. Au. ☉.) corol 4-cleft: calyx 4-parted; divisions subulate: panicle corymbed: peduncles filiform.

F.

19—12. Fa'gus. 50. 99.

fer'rugin'ea, A. (red beech. O. y-w. M. ♄.) leaves ovate-oblong, acuminate, pubescent beneath, coarsely toothed, at the base obtuse, subcordate-oblique: nuts ovate, acutely 3-sided. 40—60 f.
sylvatica, (1) Var. *americana*, (white beech. y-w. M. ♃.) leaves ovate, acuminate, slightly toothed, ciliate at the margin, acute at the base: nuts ovate, 3-sided, obtuse mucronate. 50—100 f. *S.* T. F. Florida.

3—1. Fe'dia. (2) 48. 56.

radiata, Mx. (3) (wild lamb lettuce, corn-sallad. W. w. J. ☉.) stem dichotomous; leaves spatulate-oblong, sub-entire; fruit pubescent, about 4-sided, naked at the apex. 8—18 i. *S.* P. T.
chenopodifolia, Ph. (W. ☉.) dichotomous: leaves ovate, acute, dentate below; cyme naked, divaricate dichotomous: filaments long. 8 i. M.

Exotic.

olitoria, (lamb lettuce,) stem dichotomous: leaves lance-linear.

5—2. Fer'ula. 45. 60.

palmella, H. (W. w.) glabrous, somewhat stemless: leaves bipinnatifid: glaucous, long petioled, segments linear, obtusish, with the lower ones often a second time pinnatifid: peduncle somewhat shorter than the leaves: involucre 0: involucels unilateral, halved, palmate, disk flower-bearing. 9 i. A.
foeniculac'ea, N. (W. y. M. ♃.) stemless, pubescent: leaves more than decompound, somewhat biternate-pinnate; primary divisions decus-

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Eurybia. Gr. *eurus*, broad, *bia*, a redundant adjunct: on account of the broad leaves.
Exacum. The ancient name of a plant nearly related to Centaurium; derived fr m Gr. *ex*, out, and *ago*, to drive, being reputed to expel poison from the stomach.
Fagus. Gr. *phago*, to eat, the fruit having been long known as edible.
Fedia. Gr. *pheido*, clemency, from its harmless inert qualities.
Ferula. Lat. *ferio*, to strike, it being much used for whipping schoolboys when the stalk is dry; for it makes a great noise without giving pain.
(1) sylvestris, Mx. (2) Valerianella, Dc. (3) Valeriana, W. Ph.

sate at the base; segments shortish, narrow-linear, acutish; ultimate divisions 3-cleft: involucel halved, 5—7-lobed. 1 f.

nuttallii. Dc. (1) (W. w. M. 2ſ.) leaves radical, thrice ternate; leafets unequally-sparingly toothed: ray umbels elongated: involucre and involucel nearly wanting: scape radical.

3—2. Festu'ca. (2) 4. 10.

elatior, (fescue-grass. O. J. 2ſ.) panicle spreading, very branching, lax: spikelets ovate-lanceolate, 4—5-flowered; florets slightly armed: leaves flat: root creeping. 3—4 f.

myurus, L↑ (J. ☺, ♂.) panicle slender, crowded, equal: spikelets about 4-flowered: florets subulate, awned, hairy, monandrous. 6—12 i. S.

tenella, W. (3) (W. J. ☺.) panicle spiked, very simple, one-sided: spikelets about 9-flowered: bristles shorter than the subulate florets: culm filiform; angular above: leaves setaceous. 8—15 i. S. P. W. Y. B. N.

durius'cula, L. (hard fescue-grass. J. 2ſ.) panicle one-sided, oblong, contracted: spikelets 5—6-flowered, nearly terete: florets terminated by short bristles: root fibrous. Perhaps introduced. 12—18 i. S. Y.

rubra, L↑ (J. 2ſ.) panicle one-sided, erect, spreading: spikelets teretish: florets longer than the bristle at their tips: leaves pubescent above: root creeping. 18 i. P.

pratensis, Hd. (W. J. 2ſ.) panicle spreading, branched: spikelets linear, many-flowered, acute: leaves linear: root fibrous. Panicle sub-secund nearly simple. 1—2 f. M.

poaeoi'des, Mx. (W.) panicle somewhat crowded; lower branches simple: spikelets alternate, oblong, sub-sessile, unarmed: leaves flat, very glabrous. Canada.

nutans, W. (W. J. 2ſ.) panicle diffuse, at length nodding: branches long, in pairs, naked below: spikelets ovate, 3—5-flowered; florets somewhat obtuse, unarmed, nerveless. 3 f. S. Y. P. C. O. M. N. D.

fasciculāris, Lk. (4) (Au. ☺.) culm procumbent, geniculate: panicle sub-secund: branches straight, spike-like: spikelets appressed, 8—10-flowered: florets armed: leaves very long. 1 f. S.

clandestina, M. (W.) panicle partly concealed in the sheaths: branches solitary, simple: spikelets 10-flowered; florets awned. 8 i. Y.

Southern.

spicata, Ph. (W. J.) spikelets alternate, sessile, erect, somewhat 5-flowered: florets subulate, sub glabrous, with a long, scabrous awn: linear leaves and culm glabrous.

grandiflora, Lk. ( ) panicle simple, erect: spikelets very few, generally 7-flowered: florets acute, distant.

Festuca. In Celtic the word *fest*, signifies pasture, food.

(1) F. nudicaulis, N. Smyrnium nudicaulis, Ph.

(2) Schenodorus, R. & S.

(3) bromoides, Mx. octoflora, W. (4) polystachya, Ph. E. Mx.

parviflora. E. (Ap. 2ſ.) panicle equal, slender, appressed: spikelets terete-subulate, 5-flowered, awned: calyx unawned. 12—18 i.

Festuca, Glyceria, Diarrhena, Uniola, Ceratochloa.

20—3. Fi'cus. 53. 98.

Exotic.

carica, (fig tree. g. Ju. ♄.) leaves cordate, 3 or 5-lobed, repand-toothed: lobes obtuse, scabrous above, pubescent beneath. 5—8 f.

3—1. Fimb'risty'lis. (1) 3. 9.

spadi'ceum, (Ju. 2ſ.) spikes ovate lanceolate: involucre riged, with one leaf longer than the umbel: leaves subulate, tereteish, striate. 2—3 f. *S.*

ferrugineum, (2) (M. 2ſ.) stem compressed: angles near the summit scabrous: leaves concave, those of the involucre unequally ciliate: spikes lanceolate, roundish. ½—3 f. *S.* P.

Southern.

castaneum, Mx. (Ju. 2ſ.) spikes ovate-oblong, obtuse: involucre 2-leaved, rigid, as long as the compound umbel.

cylindricum, (2ſ.) spike cylindric, very obtuse: involucre about 1-leaved, rigid, equalling the simple umbel.

6—1. Floer'kea. 54. 92.

uliginosa, M. (3) (false mermaid. W. w-y. Ap. 2ſ.) leaves alternate; those under water ternate, those above water quinate-pinnate. Grows in great quantities along the southeast part of Lake Erie—often 1 f. Found in ditches between Albany and Troy. *S.* T.

Forrestiera, Borya.

11—2. Fothergil'la. 50. 78.

Southern.

alnifolia, W. (4) (witch alder. w. Ap. ♄.) leaves wedge-obovate, crenate-toothed above. Var. *major*, has ovate-oblong leaves, sub-cordate. Var. *acuta*, has ovate-acute leaves.

11—13. Fraga'ria. 35. 92.

virginiana, (5) (wild strawberry. O. w. M. 2ſ.) calyx of the fruit spread-

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Ficus. A name as obscure as it is ancient, and nearly the same in many languages, always applied to the fig.

Fimbristylis. Lat. *fimbria*, a fringe, and *stylis*, the style, alluding to the fringed style of the flower.

Floerkea. In honor of Floerke, a German botanist.

Fothergilla. In honor of John Fothergill, an English cultivator of exotics.

Fragaria. Lat. *fragro*, to smell sweetly, on account of the perfume of its fruit.

(1) Scirpus, L. Mx. &c.
(2) puberulum, Vahl.
(3) palustris, N
lacustris, P.
proserpinacoides, W.
(4) gardeni, Mx.
(5) glabra, Du Hamel.

ing, distinct: hairs on the petioles erect, on the peduncles close-pressed: leaves somewhat glabrous above; pedicels generally few: receptacles of the seed conic-oblong, or ovate with seeds immersed.

canadensis, Mx. (mountain strawberry. W. w. M. 2f.) large: leafets broad-oval, lateral ones manifestly petioled: pedicels numerous, recurve-pendulous: receptacles of the seed globose, honeycomb-scrobiculate, villose: calyx of the fruit erect, cohering. Leaves darker green: seeds upon the external surface of the berry-like receptacle. S. P. D. T. Canada.

chilensis, Ehr. ( ) flowers spreading: leafets broad-ovate, very obtuse, coarsely serrate, coriaceous rugose, beneath silky villose: peduncles and calyx silky. A. R.

Exotic.

vesca, (english strawberry. w. M. 2f.) calyx of the fruit reflexed: hairs on the petioles spreading, on the peduncle close-pressed.

elatior, (hautboy strawberry. w. 2f.) calyx of the fruit reflexed: hairs on the peduncle and petiole spreading.

grandiflora, (pine-apple strawberry. w. 2f.) calyx of the fruit erect: hairs on the peduncle and petiole erect; leaves coriaceous, somewhat glabrous above.

4—1. FRASE'RA. 47. 46.

carolinicnsis, Wr. (1) (pyramid flower, columbo root. W. r. & y. Ju. ♂.) leaves whorled or opposite: flowers in clusters. Tonic, bitter, mild cathartic, and emetic. Bw. 3—6 f. S. D.

20—2. FRAX'INUS. 44. 34.

sambucifolia, Mx. (black ash. O. M. ♄.) leafets sessile, lance-ovate, serrate, rugose-shining, round-oblique at the base; axils of the veins villose beneath: flowers naked, not calcycled. S.

acuminata, Lk. (2) (white ash. O. w-g. M. ♄.) leafets petioled, oblong, shining, acuminate, very entire, or slightly toothed, glaucous beneath: flowers calycled. S.

pubescens, Wr. (3) (red ash. M. ♄.) leafets petioled, oval-ovate, serrate; petioles and branchlets downy beneath; flowers calycled. Var. *longifolia*, leafets narrow, lance-ovate, sub-serrate. Var. *latifolia*, leafets ovate, broad, serrate, serratures obsolete towards the middle. Var. *sub-pubescens*, leafets oval-oblong, acuminate, sharply serrate, subpubescent below, common petiole very glabrous. P. C. N. T.

juglandifolia, W. (4) (walnut-leaf ash, swamp ash. M. ♄.) leafets petioled, ovate, opake, serrate, glaucous beneath; axils of the veins pubescent: branchlets glabrous: flowers calycled: leafets 6 to 15, long. S. P. W. T.

epiptera, Vahl. (5) (M. ♄.) leafets lance-oval, sub-serrate: samaras wedge-form, obtuse-emarginate at the apex, terete below. S. P. Y.

Frasera. In honor of John Fraser, an American cultivator of exotics.

Fraxinus. Lat. *fraxinus*, the ash, supposed from Gr. *phraxis*, a hedge, from the use sometimes made of it.

(1) walteri, Mx. (2) concolor, Mx. americana, W.
(3) tomentosa, Mx. (4) caroliniana, Wm. (5) discolor, Mx.

platycarpa, Mx. (Ap. ♄.) leafets petioled, serrate, and, like the fruit, lance-elliptic. *S. Y.*

caroliniana, W. (Ap. ♄.) leafets petioled, lanceolate, serrulate, shining, glabrous: branchlets glabrous: flowers calycled. *S.*

Southern.

triptera, N. (♄.) leafets obovate, entire, sub-sessile, tomentose beneath, oblique at the base: fruit broad, obovate, generally 3-winged, tapering at the base.

quadrangulata, W. (blue ash. W. M. ♄.) leafets sub-sessile, lance-oval, serrate, pubescent beneath: samara obtuse at each end.

6—1. FRITILLA'RIA. 10. 14.

Southern.

lanceolata, Ph. (1) (W. p. Ju. 2ſ.) stem leafy, 1—2-flowered: leaves lance-linear, obtusish; lower ones whorled: petals lanceolate.

alba, N. (W. w. Ap. 2ſ.) glaucous: leaves remotish, alternate, sessile, oblong-linear, flattish, oblique, obtuse, substriate beneath: flowers 1—3, axillary and terminal. 1 f.

atropurpurea, M. (br.) leaves scattered, linear, acute: stem sub-3-flowered: petals lanceolate, distinct at the base: stigma revolute, very long. 8—12 i. R.

Exotic.

imperialis, (crown imperial. r. & y. M. 2ſ.) flowers under a leafy crown nodding: leaves lance-linear, entire. From Persia.

meleagris, (frittillary. guinea-hen flower. p. & y. M. 2ſ.) leaves alternate, linear, channelled: stem 1-flowered: nectary linear. Flower checkered.

8—1. FU'CHSIA. 17. 88.

Exotic.

magellanica, Lk. (2) (ear-drop. r.) peduncles axillary, 1-flowered: leaves opposite or in threes, very entire. Flowers pendulous.

3—1. FUIRE'NA. 3. 9.

squarrosa, Mx. (umbrella grass. W. Ju. 2ſ.) spikes clustered (5—6,) ovate: culm smooth: leaves ciliate: sheaths hairy: valves of the corol cordate-ovate. Var. *pumila*, culm pubescent above: leaves smooth: throat of the sheaths hairy; spikes 1—3, terminal. 18 i. *S.* Var. *pumila*, 3—6 i. Y. Charleston, S. C.

Southern.

hispida, E. (Au.) leaves long, with the sheaths very hispid: stem hispid above: heads many (5—8) clustered: valves of the corol ovate, mucronate. 1—2 f.

Fritillaria. Supposed from *fritillus*, a chess board, alluding to the chequered petals.

Fuchsia. In honor of L. Fuchs or Fuchsin, a noted German botanist.

Fuirena. In honor of Geo. Fuiren, a Dutch botanist.

(1) Lilium kamtschatciense, W. (2) coccinea, A.

Fuirena, VAGINARIA.

16—6. FUMA'RIA. 24. 93.

officinalis, (fumitory. r. J. ☉.) stem branching, spread: leaves more than decompound: leafets lance-wedge-form, gashed. Naturalized. 6—10 i. I have seen this plant growing wild in extensive plats on fields and road sides, in the south part of G. Barrington, Mass. C. Y. P. B. F. Canada.

Fumaria, CORYDALIS

G.

16—10. GALACTIA. 32. 93.

glabella, Mx. (1) (milky-way plant. r. & w. J. 2ſ.) prostrate, somewhat twining and glabrous: leaves ternate: leafets oval-oblong, obtuse, emarginate at both ends: raceme axillary, as long as the leaves: legumes villose. *S.* Y. P. Peekskill.

mollis, Mx. (2) (r. & w. Ju. 2ſ) twining, having soft whitish pubescence: leaves ternate, ovate-oblong, obtuse, smoothish, glaucous beneath: racemes axillary, simple, elongated, few-flowered: legumes villose. *S.* Y. P.

Southern.

villosa, N. (p. Ju. 2ſ.) densely pilose: leaves ternate; leafets oblong-ovate; obtuse, pale beneath: racemes axillary, much longer than the leaves: flowers scattered on short pedicels.

elliotti, N. (w. J. 2ſ.) leaves pinnate: leafets oval, emarginate, glabrous above, pubescent beneath: racemes long, few-flowered.

6—1. GALAN'THUS. 6. 17.

Exotic.

nivalis, (snow-drop. w. Ap. 2ſ.) leaves linear, keeled, acute, radical: scape 1-flowered.

17—3. GALAR'DIA. 49. 55.

pinnatifida, T. & J. (W. y. p.) leaves pinnatifid; divisions lance-linear, somewhat entire. 8 i.

Southern.

bicolor, Lk. (3) (W. p. J. 2ſ.) leaves alternate, sessile, lance-linear, acute, pubescent, sparingly serrate, ciliate; ciliæ hooked: flowers sol-

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Fumaria. Lat. *fumus*, smoke, from the juice and odor having the same effect as smoke, on the eyes.

Galactia. Gr. *gala*, milk, the plant being milky in all its parts.

Galanthus. Gr. *gala*, milk, and *anthos*, flower, alluding to its milky whiteness.

Galardia. In honor of M. Gaillard de Charrentonneau, a French amateur of Botany.

(1) Dolichos regularis, W. Ervum volubile, Wr. (2) Hedysarum volubile, W. (3) lanceolata, Mx.

itary, terminal: scales of the calyx lanceolate, acute, pubescent; outer ones reflexed; inner ones erect: chaff of the egret very entire, awned. Var. *aristata*, Ph. very hirsute, scabrous: stem branching: leaves lance-linear, sessile: chaffs of the egret (5—7) ovate-lanceolate, very long awned. 2 f. Florida.

Galardia, ACTINELLA, LEPTOPODA.

17—2. GALATELLA. 49. 55.

nemoralis, Cass. Described under Aster by the specific name *ledifolius*.
graminifolia. Described under Aster *graminifolius*.

5—1. GA'LAX. 28. 83.

Southern.

rotundifolia, Mx. (1) (A. w. J. 2f.) very glabrous: leaves round-reniform, toothed; spike very long.

Galega, TEPHROSIA.

13—1. GALEOP'SIS. 42. 42.

tetra'hit, (flowering nettle, hemp nettle. O. r. w. Ju. ☺.) the spaces between the joints of the stem thicken upwards: leaves ovate, hispid, serrae: calyx prickly, shorter than the corol: stem rough-haired. 1—2 f.

ladanum, (red hemp nettle. E. r. Ju. ☺.) stem hairy: internodes not swollen: leaves lanceolate, sub-serrate, hairy: upper lip of the corol sub-crenate. 1 f. B. Mt. Holyoke.

4—1. GA'LIUM. 47. 57.

1. *Fruit glabrous.*

trifidum, W. (2) (bed-straw. W. w. Ju. 2f.) stem procumbent, scabrous backwards: cauline leaves in fives: branch leaves in fours, linear, obtuse: scabrous at the margin and on the nerves: fascicles terminal, few-flowered: pedicels short: corols mostly 3-cleft. *S.* W. Y. P. T. B. C. N. F.

verum, (yellow bed-straw, y. Ju. 2f.) leaves whorled, about in eights, linear, grooved, entire, scabrous: flowers in dense panicles. Var. *latifolium*, leaves wedge-obovate.

tinctorium, (wild madder, dyer's cleavers. O. w. Ju. 2f.) stem diffuse, smoothish: cauline leaves in fives and sixes: branch leaves in fours, linear-acutish: peduncles terminal, elongated, 2—3 flowered. 1 f. *S.*

obtusum, Bw. (W. w. Ju. 2f.) stem smooth, procumbent: leaves in fours, oblanceolate, obtuse, rough on the margin and midrib. B. T. C.

asprellum, Mx. (rough bed-straw. O. w. Ju. 2f.) stem diffuse, very branching, prickly backwards: leaves in fives and sixes, lanceolate,

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Galatella. Gr. *gala*, milk, with a diminutive adjunct, on account of the milky juice of the plant.

Galax. Gr. *galax*, milky, from the whiteness of its flowers.

Galeopsis. Gr. *galē*, a weasel, and *opsis*, appearance, from the grotesque figure of the flower.

Galium. Gr. *gala*, milk, because one species will coagulate milk. (1) aphylla, W. Erythrorhiza, Mx. (2) Claytoni, Mx.

acuminate; margins and nerves prickly: pedicels short. 18—24 i. *S.*

2. *Fruit hirsuit.*

brachiatum, Ph. (bed:straw. w. Ju. 2ſ.) stem limber, long, brachiate-ramose, hispid: branches short: leaves in sixes, lance-oblong, acuminate, glabrous; margin and keel ciliate: branches whorled, the longest dichotomous: pedicles 2-flowered, fruit with hooks. *S.* V. Y. P. T. C. N.

aparine, (catch-weed, goose grass. W. w. J. ☌.) stem limber, scabrous backwards: leaves in about eights, linear, and linear-oblanceolate, mucronate, hispid above, margin and keel prickly: fruit hook-bristled. 3—4 f. P. Y. W. B. C. O. N. F.

micranthum, Ph. (W. w. Ju. 2ſ.) stem very branching, prickly backwards: leaves short, lanceolate, mucronate, glabrous; margin and keel prickly: pedicels about 2-flowered.

triflorum, Mx. (1) (O. w. Ju. 2ſ.) stem procumbent, smoothish: leaves in fives or sixes, lance-obovate, mucronate glabrous, scarcely ciliate at the margin: branchlets 3-flowered at the end; flowers pedicelled: fruit small. *S.*

pilosum, A. (W. p. J. 2ſ.) stem nearly simple, long, ascending, remotely geniculate, hispid: leaves in fours, oval, short-mucronate, very hirsute both sides, nerveless: branchlets nearly simple, about 3-flowered at the end: fruit pilose. 1 f. *S.* P. Y. T. N. C. O. F.

circæ'zans, Mx. (2) (wild liquorice, cross cleavers. O. w-y. J. 2ſ.) stem erect, smooth: leaves in fours, oval, acutish smoothish; margins and nerves a little ciliate: peduncles few-flowered: flowers remote, subsessile: fruit with hooked bristles. Leaves taste much like liquorice. 6—12 i. *S.*

lanceolatum, T. (W. p. Ju. 2ſ.) stem erect, very smooth: leaves in fours, lanceolate, generally acute, smooth, 3-nerved, sub-ciliate at the margin: peduncles divaricate: fruit sub-sessile, nodding, hook-bristled. 1. f. D. O. B. P. T. H. N. Owego.

bermudianum, W. (3) (W. p. Ju. 2ſ.) stem very branching, scarcely pubescent: leaves in fours, ovate, obtuse, glabrous, with pellucid dots; margins and nerves pubescent: floriferous branchlets elongated: fruit with hooked bristles. *S.* P. T. N.

boreale, (4) (W. w. Ju. 2ſ.) stem stiffly erect, smoothish, branching: branches short, erect: leaves in fours, linear-lanceolate, obtuse, 3-nerved, with involute scabrous margins: flowers panicled, terminal: fruit minutely hook-bristled. 12—24 i. T. Y. P. B. C. O. F. N. Owego.

Southern.

latifolium, Mx. (A. p. Ju.) stem erect, smooth: leaves in fours, oval, acute, membranaceous, somewhat hispid on the margin: peduncles divaricate, loosely many-flowered: fruit smooth. Carolina.

uniflorum, Mx. (p. J. 2ſ.) stem assurgent, smooth: leaves generally in fours, linear, acute, revolute: peduncles generally solitary, 1-flowered: fruit smooth.

hispid'ulum, Mx. (w. M. 2ſ.) stem procumbent, pubescent, much branch-

(1) cuspidatum, M. (2) brachiatum, M. boreale, Wr. (3) purpureum, Wr. puncticulosum, Mx. (4) strictum, 4th ed. septentrionale, Dc.

ed: leaves in fours, lanceolate, dotted, scabrous: fruit scabrous. Carolina.

cuspidatum, Dc. (2f) stem prostrate, glabrous: leaves about in sixes, lance-acuminate, thinly-ciliated: peduncles trifid: lobes of the corol acuminate: fruit pilose. Hairs on the fruit long and white.

10—1. GAUL'THERIA. 18 51.

procumbens, (spicy wintergreen. O. w. J. 2f. or ♄.) stem procumbent: branches erect: leaves obovate, acute at the base: flowers few, nodding. Berries red, consisting in part of the permanent calyx; a little mealy; pleasant tasted. *S.*

hispid'ula, M. (1) (creeping wintergreen. W. w. M. ♄) stem creeping, hispid: leaves oval, acute: flowers solitary, axillary, sub-sessile, having but 8 stamens, short-bell-form. B. D. N.

shallon, Ph. (W. w. J. ♄.) erect, fructicose: leaves ovate, sub-cordate, serrulate: raceme 1-sided, bracted: pedicels 2-bracted in the middle. *S.*

8—1. GAU'RA. 17. 88.

biennis, (virginian loosestrife. r. & y. Au. ♂.) leaves lanceolate, toothed: spike crowded: fruit roundish-4-cornered, pubescent. 4—6 f. *S.* T. P. C. H. O. M. Peekskill.

villosa, T. & J. (W. r.) herbaceous: stem panicled above, naked, very glabrous: leaves silky-villose, lanceolate, acute, remotely toothed and entire: petals obovate, obtuse: stamens declined: flowers octandrous: capsules linear-oblong. 3 f.

parvifolia, T. & J. (W. r.) stem glabrous, panicled above: leaves linear, hirsute, entire: flowers loosely spiked: petals roundish, with short claws: capsules ovate-oblong, narrowing towards each end.

marginata, Lehm. (r.) stem ascending, base suffruticose: leaves lanceolate, repand dentate, sub-revolute; becoming whitish, with close pressed pubescence on both sides: flowers in terminal spikes, whorls crowded. bracts linear, deciduous: fruit becoming white. R.

glabra, Lehm. (r.) stem ascending, base suffruticose: leaves narrow-lanceolate, undulate, very glabrous: spikes elongated: flowers alternate: bracts linear, persistent: germs linear, 4-angled, glabrous. A.

parviflora, Dg. ( ) stem herbaceous, erect, pilose: leaves oblong, acuminate, remote-toothed, margin ciliate; in the young state somewhat velvety: spikes elongated: flowers minute crowded: fruit distant, 4-angled, tapering at both ends, somewhat glabrous. 12—18 i. R. A.

Southern.

angustifolia, Mx. (2) (w. Ju. 2f.) leaves clustered, linear, repand, undulate: fruit oblong, 4-angled, acute at each end.

coccinea, N. (W. r. ✪. 2f.) silky-pubescent: leaves lance-linear, subdenticulate: spike crowded: petals as long as the calyx: stigma sub-

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Gaultheria. In honor of Dr. Gaulthier, a French botanist of Quebec.

Gaura. Gr. *gauros*, pompous or elated, from its rose colored flowers in fine terminal spikes.

(1) serpyllifolia, Ph. Vaccinium hispidulum, L. Oxycoccus hispidulus, P. Arbutus thymifolia, A. filiformis, Lk. (2) biennis, Wr.

entire. Var. *integerrima*, stems numerous, hoary-sub-villose, simple: leaves lance-oblong, very entire, acutish, narrow at the base: racemes lax, few-flowered: petals ovate, obtuse, with very narrow claws.

mollis, N. (W.) leaves lanceolate, entire, clothed with soft hairs.

linifolia, N. (W. w.) stem erect, sparingly branched, smooth: leaves smooth, sessile, lance-linear, entire: murib translucent: spike terminal, crowded, becoming much extended after flowering: fruit triquetrous, shorter than the linear bracts 3—4 f.

sinuata, N. (W.) branches and leaves with close-pressed hairs; leaves numerous, linear sinuate: flowers long spiked; fruit distant, clavate, 4-sided at the apex, tapering at the base and short pedicelled: angles tumid. Arkansas, and Red River.

5—2. GELSEM'INUM. 40. 47.

Southern.

sempervirens, W. (1) (y. March. 2ſ.) stem twining, smooth, glabrous: leaves opposite, perennial, lanceolate, entire, dark-green above, paler beneath: petioles short. Var. *inodorum*, has inodorous flowers. Florida.

16—10. GENIS'TA. 32. 93.

Exotic.

tinctoria, (dyers broom, wood waxen. y. Au. 2ſ.) leaves lanceolate, glabrous: branches terete, striate, erect, unarmed: legumes glabrous. 1 f. B. Peekskill.

5—2. GENTIA'NA. 47. 46.

saponaria, (2) (soap gentian. O. b. & w. S. 2ſ.) stem terete, glabrous: leaves lance-ovate, 3-nerved: flowers sessile, fascicled, terminal and axillary: corol 5-cleft, bell-ventricose, almost closed at the top: inner folds toothed. 12—18 i. *S.*

ochroleuca, Frl. (3) (marsh gentian. W. y. & b. S. 2ſ.) stem somewhat angled, glabrous: leaves lance-ovate: flowers sessile, fascicled, terminal: corol 5—10 cleft, bell-ventricose; divisions acute; inner folds simple, acute. 1 f. *S.*

rubricaulis, Sz. & Keating. (W.) stem terete, glabrous, red: leaves lance-oblong, 3-nerved, obtuse: flowers terminal, fascicled, sessile: corol 5-cleft, bell-form, not ventricose; divisions acute, connivent; inner folds 1-toothed. 1 f.

pneumonanthe, (calathian violet. b. Au. 2ſ.) stem terete: leaves lance-linear, obtusish: flowers terminal, fasicled; lateral ones solitary, pe-

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Gelseminum. One of the ancient names of the jasmine.

Genista. Lat. *genu*, a knee, in allusion to the bending of the twigs; or from Celt. *gen*, a small bush.

Gentiana. After Gentius, king of Illyria, who according to Pliny, first used it for its tonic qualities.

(1)Bignonia, W. (2) fimbriata, Vahl. (3) saponaria, Wr. villosa, W.

duncled: corol 5-cleft, bell-form; divisions roundish; inner folds with one acute tooth. 1 f. *S.* P. B. Canada.

angustifolia, Mx. (1) (b. O. 2*f*.) stem simple, slender, 1-flowered: leaves linear and wedge-form, spreading: corol funnel-form, with the alternate divisions lacerate. 1 f. *S.* Y.

linearis, Frl. (2) (A. b. Au. 2*f*.) stem somewhat scabrous: leaves lance-linear, undulate, ciliate: flowers sessile, in terminal, crowded fascicles: calyx ciliate: corol bell-form, 5-cleft; divisions obtuse, with the inner folds denticulate. *S.* P.

quinqueflora, Frl. (3) (O. h. Au. ♂.) stem 4-cornered, branching: leaves half-clasping, oval, acute, 3-nerved: flowers 5-cleft, bell-tubular, with a glabrous throat, terminal and lateral, in threes or fives, sub-pedicelled; divisions lanceolate, acuminate: calyx short. 1 f. *S.*

crinita, W. (4) (fringed gentian. O. b. S. 2*f*.) stem terete: branches long, 1-flowered: leaves lanceolate, acute: corol 4-cleft; divisions obovate, gash-ciliate. 18 i. *S.*

acuta, Mx. (W. A. g-y.) stem 4-angled: leaves somewhat clasping, oblong, very acute: flowers fascicled, terminal and lateral; throat of the corol ciliate. *S.*

lutea, (yellow gentian. y.) leaves broad-ovate, nerved: corols about 5-cleft, wheel-form, whorled. Y. New-Jersey.

Southern.

catesbaei, Wr. (Oc.) rough: leaves narrow-lanceolate; divisions of the calyx lance-linear, twice as long as the tube: corol with the border erect; inner segments short, 2-cleft, fimbriate.

15—10. GERA'NIUM. 14. 73.

maculatum, (crow-foot geranium, cranesbill. O. r. & b. J. 2*f*.) erect: pubescence reversed: stem dichotomous: leaves opposite, 3 or 5-parted, gashed; upper ones sessile: peduncles 2-flowered: petals obovate. 1—2 f. *S.* West R. Mts.

carolinianum, (W. w. r. Ju. ♂.) diffuse, pubescent: leaves opposite, 5-lobed: lobes 3-cleft, gashed: peduncles 2-flowered, sub-fascicled: petals emarginate, equalling in length the awned calyx: arils villose. 12—18 i. *S.* Y. C. P. M. R. D.

pusillum, (small crane's bill. b. M. ☉.) peduncles 2-flowered: flowers pentandrous, with 5 abortive filiments: petals retuse, of the length of the awnless calyx: leaves sub-reniform, 5—9-lobed: lobes 2—3-parted, wedge form, divisions acute, sub-toothed: arils pubescent. Probably synonomous with G. *dissectum*. P. O.

dissectum, W. (wood geranium. r. J. ☉.) spread, hairy: leaves opposite, 5-parted: lobes 3-cleft, gashed, linear: peduncles 2-flowered, long: petals emarginate, the length of the awned calyx: aril with glandular hairs. 1 f. Y. P. B. C. H. M. F.

robertianum, (herb robert. O. r. J. ♂) spread hirsute: leaves opposite, ternate and quinate, 3-cleft, pinnatifid: peduncles 2-flowered: petals

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Geranium. Gr. *geranion*, from *geranos*, a crane, the germ and style resembling the head and beak of that bird.

(1) purpurea, Wr. (2) puberula, Mx. (3) quinquefolia, L. amarelloides, Mx. (4) fimbriata, Bot. rep.

entire, twice as long as the awned calyx: aril net-veined. 10—15 i. *S.*

columbinum, (long stalked geranium. b. M. 2*f.*) peduncles 2-flowered: longer than the leaves: leaves 5-parted: lobes many-cleft, linear: petals emarginate, of the length of the awned calyx: arils glabrous. P. Y.

caespitosum, J. (W. r.) somewhat erect, sparingly branched above: radical leaves reniform, deeply 5—7-cleft.

Exotic.

sanguineum, (bloody geranium. 2*f.*) peduncle 1-flowered: leaves 5-parted, 3-cleft, orbicular: capsule bristly at the top.

Geranium, PELARGONIUM, ERODIUM.

13—2. GERAR'DIA. 40. 37.

1. *Flowers yellow.*

flava, (false foxglove. O. y. Ju. 2*f.*) pubescent: stem nearly simple: leaves sub-sessile, lanceolate, entire or toothed: lower ones sub-pinnatifid, gashed: flowers axillary, opposite, sub-peduncled. 2—3 f. *S.*

glauca, Eddy. (1) (oak-leaf foxglove. O. y. Ju. 2*f.*) glabrous: stem glaucous, panicle-like: leaves petioled, sinuate-pinnatifid, with acute lanceolate divisions: upper leaves lanceolate, entire. 3—5 f. *S.*

pedicularia, (louse-wort foxglove. W. y. S. ♂.) pubescent, brachiate-panicled: leaves oblong, doubly gash-serrate and pinnatifid: flowers axillary, opposite, pedicelled; divisions of the calyx leafy, gash-toothed. Var. *pectinata*, stem and branches densely pilose: leaves ovate, pectinately sub-bipinnatifid, soft pubescent: calyx hirsute. 2 f. *S.* N. C. D. Y. P. B. O. H. N. Peekskill.

2. *Flowers purple.*

purpurea, (p. Au. ✪) stem with opposite branches: leaves linear, slender: flowers axillary, opposite, sub-sessile: segments of the calyx subulate. 12—18 i. *S.* P. Y. C. B. N. F.

maritima, R. (2) (W. L. p. Ju ✪.) leaves linear, fleshy, short, obtusish: flowers peduncled: upper segments of the corol ciliate: calyx truncate. 6—12 i. W. D. N. C. Y. F. B.

auriculata, Mx. (3) (W. p. Au. ✪.) nearly simple, rough: leaves lance-ovate, 2-eared at the base, entire: flowers axillary, opposite: leaves and flowers closely sessile. 8 i. *S.* P.

tenuifolia, W. (4) (W. p. Au. ♂. ✪?) very branching: leaves linear, acute, scabrous: peduncles axillary, longer than the flowers: teeth of the calyx acute. 6—12 i. *S.* P. Y. T. B. O. H.

setacea, Wr. (5) (p. S. ✪.) stem very branching: leaves setaceous, glabrous: flowers scattered, terminal and axillary: peduncles much longer than the leaves. 2 f. *S.* P.

Gerardia. In honor of John Gerarde, the old English herbalist, a great cultivator of exotic plants.

(1) quercifolia, Ph. Rhinanthus virginicus, G. heterophylla, M. (2) crinita, Eddy, crassifolia, Var of purpurea, Ph. (3) Erinus africanus, M. (4) erecta, Vahl. (5) erecta, Mx.

Southern.

aphylla, N. (p. Ju. ☉.) stem naked, nearly simple, with small, deciduous, opposite, ovate scales: corol longer than the peduncle. 3 f.

plukenetii, (y. S.) stem verybranching: leaves setaceous, glabrous: flowers axillary and terminal: peduncles shorter than the leaves: teeth of the calyx setaceous, very short. 2 f.

fasciculata, (L. p. S. ☉.) stem rigid, erect, branching near the summit: leaves opposite and in threes, sometimes alternate, linear, clustered, very scabrous: peduncles much shorter than the leaves. 3—5 f.

filifolia, N. (p. S.) stem terete, branching: leaves filiform: somewhat clustered, glabrous, alternate; divisions of the calyx acutely toothed: peduncles longer than the leaves.

linifolia, N. (1) (p. S. 2ſ.) stem terete, virgate: leaves linear, acute, smooth, appressed: calyx truncate, denticulate: corol pubescent without, villous within: peduncles a little shorter than the leaves. 2 f.

cuneifolia, Ph. ( ) branching: branches erect: leaves wedge-form, lanceolate, unequally serrate; upper ones alternate: peduncles axillary, longer than the leaves: calyx 5-parted. Is this a Gerardia? E.

fruticosa, Ph. (W. p. J. ♄.) very branching: leaves lanceolate, serrate, attenuate at the base, sub-petioled: racemes terminal: flowers opposite, bracted. Rocky Mountains.

Gerardia, SEYMERIA.

11—13. GEUM. 35. 92.

strictum, W. (2) (upright avens, herb bennet. O. y. J. 2ſ.) hirsute: leaves all interruptedly pinnate, the odd one largest: leafets ovate, toothed: stipules gashed: the 5 alternating divisions of the calyx linear, short; flowers erect: petals roundish, longer than the calyx: awns naked, hooked, sometimes hairy, not hooked. 2 f.

virginianum, (avens. O. w. Ju. 2ſ.) pubescent: radical and lower cauline leaves ternate, upper ones lanceolate: stipules ovate, sub entire: flowers erect: petals shorter than the calyx: awns hooked, naked; at the apex twisted, hairy. Var. *trilobum*, has the radical leaves 3-lobed or ternate. 2 f. *S.*

album, W. (3) (W. w. Ju. 2ſ.) pubescent, radical leaves pinnate; cauline ones ternate; upper ones simple, 3-cleft: lower stipules gashed: flowers erect: petals of the length of the calyx: awns hooked, naked, hairy at the end. 2 f. *S.* P. B. F. T.

rivale, (purple avens. O. p M. 2ſ.) pubescent: stem simple: radical leaves interruptedly pinnate; cauline ones 3-cleft: flowers nodding; petals of the length of the calyx: awns plumose, nakedish above, a little hooked. Excellent tonic. Damp.

agrimonoides, (w. 2ſ.) very hirsute: leaves all pinnatifid; lobes sub-equal, unequally gash-serrate; stipules ovate, sub-entire: flowers erect; divisions of the calyx sub-equal: petals oval, of the length of the calyx. Penn.

Geum. Gr. *guiŏ*, to be proud, from its gaudy appearance; or from *geuo*, to give taste, relating to the aromatic smell of G. urbanum.

(1) erecta, Wr? (2) canadense, Mx. aleppicum, Jn. (3) canadense, Jn. carolinianum, Wr.

peckii, Ph. (A. y. Ju. 2f.) stem few-flowered: radical leaves reniform, rounded, sub-truncate at the base, gash-toothed: petioles very long, sometimes appendaged: petals roundish, longer than the calyx. 4—8 i. Whitehills.

geniculatum, Mx. (2f.) many-flowered, sub-panicled: cauline leaves sub-sessile, 3-parted: stipules entire: petals wedge-obcordate: awns all over hairy, geniculate in the middle. Canada.

ratliatum, Mx. (A. y.) very hirsute: radical leaves pinnate; terminal one large, reniform, with radiating nerves, dentate; stem leaves clasping, gash-lacerate: awns glabrous, simple at the summit. *S.*

ciliatum, Ph. (W. y-p. Ju. 2f.) pubescent: stem simple: leaves a little glabrous, ciliate at the margin; lower ones pinnate, cauline ones pinnatifid, upper ones palmate: divisions linear, gashed: flowers corymbed.

Exotic.

urbanum, (y. M. 2f.) flowers erect, awns hooked, naked: stem erect, branching, hairy: radical leaves pinnatifid in fives: cauline ones palm-ternate: upper ones ovate, 1-lobed; stipules large, sub-orbicular. 12—18 i.

11—5. GILLE'NIA. 36. 92.

trifoliata, Mn. (1) (indian physic, bowman's root. W. w. J. 2f.) leaves ternate, lanceolate, serrate, nearly equal: stipules linear, entire: flowers terminal in loose panicles: calyx bell-tubular. Styles 5. 2 f. *S.* P Y. O. H. M.

stipulacea, (2) (W. w. J. 2f.) leaves ternate, lanceolate, gash-serrate, nearly equal: stipules leafy, ovate, gash-toothed: flowers in a lax panicle: calyx bell form. Styles 5. Var. *incisa*, has ternate leaves, with leafets gash-toothed. 2—3 f. *S.* P.

12—1. GLAU'CIUM. 27. 62.

Southern.

luteum, S. (3) (horned poppy. L. y. Ju. ☉.) stem glabrous: cauline leaves clasping, repand: peduncles 1-flowered: silique tuberculate, and a little scabrous.

5—1. GLAUX. 17. 35.

maritima, (sea milk-wort. L. r. Ju. 2f.) leaves oblong, smooth: flowers axillary, sessile. 4—5 i. In salt marshes. Harpers Ferry. Canada.

13—1. GLE'CHOMA. 42. 42.

hederacea, (ground ivy, gill over the ground. O. b. & r. M. 2f.) leaves reniform, crenate; stem rooting. Var. *cordata*, leaves cordate. *S.*

Gillenia. Gr. *gelao*, to laugh, in allusion to its exhilerating qualities.
Glaucium. Gr. *glaukos*, sea green, from its color.
Glaux. Gr. *glaux*, so called by Dioscorides, from its glaucous color.
Glechoma. Gr *glechōn*, the herb pennyroyal; others say from *glukus*, sweet, from its taste.
(1) Spirea, L. (2) Spirea stipulata, M. (3) Chelidonium glaucium, W.

20—6. GLEDITS'CHIA. 33. 93.

triacanthos, (honey-locust. w. J. ♄.) thorn strong, cross-branched: leaves oval, and oblong: legumes very long, compressed. A large tree. One side of the long flat legume contains a sweet pulp. Cultivated. Var. *inermis*, branches unarmed. S. T. P. C. D. F.

Southern.

brachycarpa, Ph. (O. Ju. ♄.) spines thick, short, sub-terete: leafets oblong, obtuse: legumes short-oblong.

monosperma, W. (swamp-locust. O. Ju. ♄.) branches somewhat spiny; leafets ovate-oblong, acute: legumes oval, mucronate, somewhat 1-seeded.

Glottedium, ROBINIA, SESBANIA.

3—2. GLYCE'RA. 4. 10.

fluitans, (1) (water fescue. W. Ju. 2ℓ.) panicle one-sided, slightly branched: spikelets linear-terete, appressed, 8—12-flowered; florets very obtuse, 7-nerved: leaves long, flat. 2—3 f. S. T. Y. P. C. O. H. N. D.

brevifolia, M. (2) (J. 2ℓ.) panicle simple, elongated, appressed: spikelets linear-terete, 4—12-flowered: florets attenuated, acute, indistinctly nerved: leaves short, erect. 18 i. B. O. M.

10—10. GLY'CINE. 32. 93.

Southern.

striata, ( ) stem twining: leafets oblong, very soft-downy: racemes of the length of the leaves: legumes very hirsute. Is this species as high north as the Gulf of Mexico?

angulata, D. ( ) stem angled, with the angles hairy: leafets oblong-ovate, obtuse, silky beneath: legumes linear, compressed, hirsute.

Glycine, PHASEOLUS, Sub. G. STROPHOSTYLES, AMPHICARPA, RHYNCHOSIA, WISTARIA, and APIOS. (3)

16—10. GLYCYRRHI'ZA. 32. 93.

lepidota, N. (W. w. Ju. 2ℓ.) leafets oblong, acute, silky-villose: legumes racemed, oblong, hispid. 3—5 f. R. Hudson's Bay.

Gleditschia. In honor of Dr. J. G. Gleditsch, a German botanist and author of several botanical works.

Glyceria. Gr. *glukus*, sweet, the seeds being very sweet and called manna seeds in Germany.

Glycine. Gr. *glukus*, sweet, from the leaves of some species having a sweet taste.

Glycyrrhiza. Gr. *glukus*, sweet, and *riza*, root, from its sweet taste.

(1) Festuca, L. · Poa, S. Devauxia, Ph. (2) acutiflora, T. Festuca, M. (3) The old genus Glycine is thus distributed under the subdivisions of Phaseolus by Elliott and De Candolle. I follow them reluctantly, but not precisely.

Exotic.

officinalis, (liquorice. 2f.) leaves pinnate, the terminal ones petioled. Root tuberous-cylindric, sweet.

17—2. GNAPHA'LIUM. 49. 55.

polyceph'alum, Mx. (1) (sweet-scented life-everlasting. O. y.-w. Ju. ☉) leaves lance-linear, acute, glabrous above, downy beneath; stem panicled, downy: corymbs terminal. 1—2 f. *S.*

decurrens, Ives, (2) (neglected life-everlasting. O. y.-w. Ju. ☉.) leaves lanceolate, broad at the base, acute, decurrent, somewhat scabrous above, tomentose beneath: stem leafy, branched, spreading. 1—3 f. C. V. T.

purpureum, W. (3) (W. p. Ju. 2f.) leaves linear-spatulate, downy beneath: stem erect, simple: flowers sessile, glomerate, terminal and axillary. Calyx purple. 6—12 i. *S.* Y. P. C. N. Florida.

luteo-album, L. ( ) leaves sub-amplexicaule, both sides and the stem arachnoid-woolly, lower ones spatulate, upper ones lance-linear, undulate; flowers dense, corymbose-capitate. R. A.

supinum, L. ( ) stem decumbent at the base and branching; fruit bearing one erect: leaves linear, both sides arachnoid-tomentose: flowers axillary, solitary or racemed: scales of the calyx fuscous at the margin. A.

uliginosum, W. (cudweed, mud-life-everlasting. O. w. Ju. ☉.) stem branched, spread woolly: leaves lance-linear, narrowed at both ends, downy: flowers terminal, heaped: calyx brown. Damp. 4—6 i. *S.*

germanicum, W. (w. Ju. ☉.) stem erect, dichotomous: leaves lance-linear acute, tomentose: flowers in a globular head, terminal, and lateral. 6—8 i. *S.* P. H. M.

americanum, W. (4) (W. y-w. J. ☉.) herbaceous, erect, branching: leaves obovate-spatulate, pubescent beneath: flowers axillary and terminal, in glomerate spikes. 6—8 i. *S.* P. Y.

sylvaticum, W. (Ju. 2f.) stem erect, simple, downy: flowers in a leafy spike, axillary and terminal: leaves lance linear, downy. 12 i.

Sub-genus ANTENNARIA, Br. *style very simple or short, bifid.—dioeciate.*

margaritacea, (pearl-flowered life-everlasting. O. y. & w. Ju. 2f.) tall, simple: leaves lance-linear, acute, 3-nerved, sessile, under side and stem woolly: corymb many-flowered: scales of the hemispheric calyx elliptic, obtuse, opaque, white, the outer ones, only, tomentose at the base. 1—2 f.

plantaginifolia, (mouse ear, early life everlasting. O. w. Ap. 2f.) stoloniferous creeping: leaves white-tomentose beneath chiefly; radical ones ovate-spatulate, white, 3-nerved; cauline ones lance-linear stem woolly, simple; flowers corymbose-capitate, dioecious: interior scales of the calyx obtuse, opake: calyx densely woolly. 6—10 i. R.

dioica, (w. M. 2f.) stoloniferous creeping: leaves tomentose beneath chiefly; radical ones spatulate, obscurely 3-nerved at the base; cauline ones lance-linear: stem simple: flowers corymbose-capitate, dioecious. Canada. A. R. T. C. N. F.

Gnaphalium. Gr. *gnaphalon*, cotton or wool, from its soft downy surface.

(1) obtusifolium, Wr. (2) luteo-album? M. (3) hyemale, Wr. (4) spatulatum, Lk. pennsylvanicum, M.

racemosa, H. (A.) stoloniferous creeping: leaves on the upper side and the simple stem glabrous, under side white-tomentose; radical ones, ovate-spatulate; cauline ones lance-linear: flowers racemed, dioecious; racemes lax, somewhat compound: scales of the calyx all obtuse, shining, very glabrous. R.

carpatica, Wahl. (1) (A. 2.) somewhat low, simple, woolly: leaves lanceolate, 3-nerved, inferior ones petioled: corymb capitate, few-(6—8)-flowered: calyx turbinate, woolly beneath; scales obtuse, shining, becoming fuscous; upper ones elongated, apexes white, becoming opake. Canada. R.

alpina, ( ) stoloniferous, short, sub-erect: leaves white-tomentose beneath chiefly; radical ones spatulate: cauline ones linear: corymb capitate: interior scales of the calyx acute, membranaceous, becoming fuscous, shining. R. A.

Gomphocarpus, ACERATES, ASCLEPIAS.

5—1. GOMPHRE'NA. 54. 30.

Exo'ic.

globosa, (globe amaranth, bachelor's button. r. Au. ☺.) stem erect: leaves lance-ovate: heads solitary: peduncles 2-leaved.

Gomphrena, ACHYRANTHES.

Gonolobium, GONOLOBUS.

18—5. GONOLOBUS. 30. 47.

obliquus, (false choke-dog. p. J. 2.) stem twining, hirsute: leaves heart-ovate, acute: corymbs axillary: segments of the corol ovate, acuminate. *S.* P.

hirsutus, Mx. (2) (W. p. Ju. 2.) sarments and petioles very hirsute: leaves gradually acuminate, pubescent on both sides: divisions of the corol oval-oblong, obtuse: follicles oblong, muricate. Charleston, S. C.

Southern.

macrophyllus, Mx. (W. y. Ju.) leaves broad, cordate, with the sinus closed, abruptly acuminate: follicles muricate: lobes of the crown divided. Charleston, S. C.

prostratus, (p.) stem prostrate, herbaceous: leaves reniform-cordate, acute, tomentose beneath.

viridiflorus, N. (W. g.) smooth, twining: leaves sub-reniform-cordate, auricled at the base, acuminate, somewhat long-peduncled: divisions of the corol oblong-linear, oblique, obtuse: follicles ribbed.

18—1. GOODYE'RA, Br. (3) 7. 21.

pubescens, W. (rattle snake leaf, scrofula weed, adders' violet. O. y. w. Ju. 2.) leaves radical, ovate, petioled, veins colored, reticulate:

Gomphrena. From Gromphrena, a name applied by the ancients.

Gonolobus. Gr. *gonia*, an angle, and *lobos*, a pod, alluding to the ribs or angles on the legume.

Goodyera. In honor of John Goodyer, a Hampshire botanist, celebrated in Gerarde's Herbal.

(1) G. alpinum, W. (2) carolinensis, E. Cynanchum carolinense, W. (3) Neottia, W.

scape sheathed: scape and flowers pubescent: lip ovate-acuminate: petals ovate. 10—15 i. *S.*

repens, W. (A. w. Ju. 2[.) radical leaves ovate, petioled, reticulate; scape sheathed: scape and flowers pubescent: flowers one-sided: lip and petals lanceolate. 8 i. C. B.

15—12. GORDO'NIA. 37. 70.

Southern.

lasianthus, W. (holly-bay. Ju. w. ♄.) leaves lance-oblong, very glabrous, shining, coriaceous: flowers long-pedunc.led: capsules conical, acuminate. Charleston, S. C.

pubescens, W. (w. M. ♄.) leaves wedge-lanceolate, serrulate, pubescent beneath, deciduous: capsules spherical.

15—13. GOSSY'PIUM. 37. 74.

Exotic.

herbaceum, (cotton. Au. ♂.) leaves 5-lobed, mucronate, one gland beneath: stem herbaceous, smooth. 5 f.

2—1. GRATI'OLA. 40. 37.

carolinensis, Ph. (1) (w. Ju. 2[.) stem smooth, somewhat branched, procumbent at the base, 4-sided above, terete below: leaves sessile, lance-oblong: obtusish, dentate, 3-nerved: peduncles pubescent, short: divisions of the calyx lance-linear, equal, entire: bracts broader, expanding: corol pubescent within: sterile filaments none: capsule globose. Le Conte. *S.*

virginica, Ph. (2) (creeping hedge hyssop. W. w. & y. 2[.) stem more or less pubescent, branching at the base, assurgent, terete: leaves smooth, sessile, lanceolate, obtusish, dentate above, attenuate below: peduncles long, setaceous, pubescent: divisions of the calyx equal, lanceolate, obtuse: bracts broader: corol pubescent within: capsule ovate, acutish: sterile filaments none. Le Conte. 6—8 i. *S.* C. N. F. T.

aurea, M. (hedge hyssop. W. y. Ju. 2[.) smooth: stem 4 angled, repent at the base, branching: leaves sessile, lance-oblong, punctate, dentate or very entire, acute or obtusish: peduncles long, setaceous, pubescent: divisions of the calyx equal, linear: bracts linear, expanding: corol pubescent within: capsule ovate rather acute: sterile filaments 2, minute. Le Conte. 4—8 i. *S.* T.

anagallioides. Mx. (3) (water hedge hyssop. w-b. Ju. 2[.) sub-erect, very smooth: stem 4-sided: leaves oblong-oval; sparingly denticulate, shorter than the flowers: calyx without bracts, subulate, pubescent: corol smooth within; divisions generally obtuse. *S.* 3—6 i.

Gordo'nia. In honor of James Gordon, an eminent cultivator of many new plants near London.

Gossypium. Of Egyptian origin, from *gotne*, whence gottipium, the name of the cotton plant.

Gratiola. Lat. *gratia*, grace or favor, on account of its supposed medical qualities.

(1) virginiana, and acuminata, Wr. sphaerocarpa, and megalocarpa, E. officinalis, Mx. (2) officinalis, Mx.

(3) tetragona, E? Lindernia pyxidaria, Ph. &c.

Southern.

viscosa, Sz. (1) (w-p. Ap. 2ſ.) stem assurgent, viscid-pubescent, subterete: leaves smooth, sessile, lance-ovate, acutish, dentate, 3-nerved: peduncles long: divisions of the calyx equal, lance linear; bracts broader, expanding, shorter than the calyx: corol pubescent within: sterile filaments two: capsule ovate, as long as the calyx. Le Conte.

quadridentata, Mx. (2) (w. Ju. ☺.) smoothish: stem terete, procumbent, sometimes viscous: leaves sessile, lanceolate, acute, sub-punctate, 4-toothed: two anterior teeth longest; divisions of the calyx unequal, linear: bracts small, only on the flowers that first appear: (later flowers without:) corol pubescent within: sterile filaments 2, small; capsule ovate, acute, shorter than the calyx. Le Conte.

pilosa, Mx. (3) (w. Ju. ☺.) erect, branching, very hairy: stem 4-sided: leaves sessile, ovate, dentate: flowers sub-peduncled: divisions of the calyx unequal; two intermediate ones small, setaceous: corol smooth within: sterile filaments 2, very minute. Le Conte. 1—2 f.

missouriana, Bk. (W. J. y. 2ſ.) erect, terete, nearly simple; leaves narrow, lanceolate, connate, opposite, toothed at the apex; peduncles longer than the leaves: segments of the calyx linear-lanceolate, more than half as long as the tube of the corol; bracts longer than the calyx: whole plant viscid, pubescent. 4—6 i.

floridana, N. (y. Mar. ☺.) glabrous, erect: leaves lanceolate, obsoletely denticulate, acutish: peduncle longer than the leaf; flowers largish, divisions emarginate. 9 i.

Grindelia, DONIA.

20—10. GYMNOCLA'DUS. 33. 93.

canadensis, W. (W. w. J. ♄.) leaves bipinnate; leafets oval, acuminate, pubescent. S. O. Banks of Seneca Lake.

3—2. GYMNOPO'GON. 4. 10.

racemosum, Ph. (4) (Au. 2ſ.) spikes panicled: flower solitary, remote: the exterior valve of the corol awned at its summit; the interior at its base. Sand. 18 i.

17—4. GYMNOSTY'LES. 49. 55.

Southern.

stolonifera, P. (5) (M 2ſ.) herbaceous, procumbent, creeping, glabrous: leaves pinnatifid: flowers sessile at the root.

Gymnocladus. Gr. *gumnos*, naked, and *kladus*, slender branch, in allusion to the naked appearance of its strange rigid shoots in winter.

Gymnopogon. Gr. *gumnos*, naked, and *pogon*, beard, from the awn of the corol.

Gymnostyles. Gr. *gumnos*, naked, and *stulos*, style, from the long, permanent, naked style.

(1) virginica, E. (2) ramosa, Wr. (3) peruviana, Wr.
(4) Andropogon ambiguum, Mx. Anthopogon lepturoides, N.
(5) Hippia, P.

Gynandropsis, CLEOME.

6—3. GYRO'MIA. N. 11. 12.

virginica, (1) (Indian cucumber. O. y. g. M. 2f.) several leaves in a whorl near the middle of the stem and 3 in a whorl at the top, lance-oval, acuminate: pedicels aggregated, terminal. Root white, edible. 12—18 i. *S.*

H.

18—1. HABENA'RIA. W. (2) 7. 21.

ciliaris, (orchis. O. y. Ju. 2f.) lip lance-oblong, pinnate-ciliate, twice as long as the petals: spur longer than the germ. 1—2 f. *S.*

blephariglottis, W. (w. Ju. 2f.) lip lanceolate, ciliate, of the length of the upper petal: spur longer than the germ. Resembles the last. 18 i. *S.* T. Y. B. N.

cristata, Mx. (y. J. 2f.) lip oblong, pinnate-ciliate: petals round, 2 lateral ones toothed: spur shorter than the germ. *S.* P. Y.

psycho'des, W. (3) (y. J. 2f.) lip 3-parted, divisions capillary-many-cleft: petals obtuse: spur filiform-clavate, ascending, of the length of the germ. C. Y. P. T. B.

integra, (y. Ju. 2f.) lip oblong, entire, longer than the inner petals: spur longer than the germ, acute at the point: stem leafy: bracts shorter than the flowers.

huronensis, N. (W. g-w. Au. 2f.) lip lanceolate, acuminate, entire, incurved: petals subulate, connivent: spur about the length of the lip, incurved: petals flat: stem leafy. 1—2 f.

dilatata, Ph. (giant orchis. O. w. or g. J. 2f.) spur shorter than the germ: lip entire, linear, with the base dilated, of the length of the spur; bracts of the length of the flower: stem leafy. In the mountain woods, the flowers are green; in the open meadows, white. 1—4 f. *S.*

fuscescens, W. (p-y. Ju. 2f.) lip ovate, toothed at the base; petals spreading: spur subulate, of the length of the germ: bracts longer than the flowers. *S.* C.

herbiola, Br. (y. J. 2f.) lip oblong, obtuse, toothed at the base: palate 1-toothed: spur filiform, shorter than the germ: bracts longer than the flowers. 1 f. F. P. N. T.

bracteata, W. (4) (vegetable satyr. g-w. M. 2f.) lip linear, emarginate, obsoletely 3-toothed: spur short, sub-inflated, somewhat 2-lobed; bracts twice as long as the flowers, leaf-like, spreading: roots palmate. 6—10 i. *S.* O. F. P. T. N.

orbiculata, Ph. (W. g-w. J. 2f.) lip linear, entire, obtusish: 3 upper petals converging; with the uppermost one deltoid, obtuse, and the 2 lateral ones spreading, oblique at the base: spur longer than the germ,

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Gyromia. Gr. *guros*, a whorl, alluding to the whorls of leaves on the plant.

Habenaria. Lat. *habena*, a thong or lash, on account of the long narrow strips of the lips of the corol.

(1) Medeola, L. &c.

(2) Orchis, L. (3) lacera, Mx. (4) Satyrium, P.

clavate, flattish, curved: leaves 2, radical, orbicular, prostrate, glabrous, very shining. 12—18 i. S. C. O. F. B. N.

macrophylla, T. (1) (A. g-y. J. 2ℓ.) lip lanceolate, entire, acuminate; spur longer than the germ, terete, nearly straight: upper petals ovate, acute: scape with 2, broad-oval, sub-erect, leaves at the base. 1 f. W. T. Owego.

fimbriata, W. (O. p. Ju. 2ℓ.) lips 3-parted: divisions wedge-form, ciliate, fringed; lateral petals ovate, toothed: spur filiform, clavate, longer than the germ. 2 f.

grandiflora, Bw. (2) (p. J.) lip dependent, twice as long as the petals, 3-parted: divisions wedge-form, fringed; middle one largest with connivent fimbria: lateral petals fimbriate: spur ascending, clavate, longer than the germ: leaves oval oblong. 2 f. N.

incisa, W. (w-p. Ju. 2ℓ.) lip 3-parted; divisions wedge-form, gash-toothed, middle one emarginate: lateral petals obtuse, sub-dentate: spur subulate, ascending, of the length of the germ. 2—4 f. S. P. Y. N.

fissa, W. (W. p. Ju. 2ℓ.) lip 3-parted; divisions wedge-form, toothed, intermediate one 2-lobed: spur filiform, clavate, ascending, longer than the germ. Tall. S. P.

tridentata, W. (3) (W. w. J. 2ℓ.) lip lanceolate, 3-toothed at the apex: petals obtuse: spur filiform, clavate, ascending, longer than the germ. 6—12 i. S. C. Y. P. N.

Southern.

quinquesela, Mx. (4) (w. S.) lip 3-parted; lateral segments setaceous: inner petals 2-parted; lower segment setaceous, nearly twice as long as the outer petal; spur twice as long as the germ: leaves lance-oval: bracts acuminate. 2 f.

repens, N. (y-g. Au. 2ℓ.) lip 3-parted; lateral segments setaceous; inner petals 2-parted; lower segment setaceous, scarcely longer than the outer petals: horn as long as the germ: leaves narrow, lanceolate: bracts acute.

Habenaria, ORCHIS.

15—12. HALE'SIA. 37. 71.

Southern.

tetraptera, W. (snow-drop tree. O. w. Ap. ♄.) leaves lance oval, acuminate, serrulate: corol 4-cleft: flowers dodecandrous: fruit equally 4-winged. Charleston, S. C. Florida.

diptera, W. (w. Ap. ♄.) leaves lance-oval and ovate, acuminate, serrulate: petals 4: flowers octandrous: fruit compressed, with 2 large wings. Florida.

parviflora, Mx. (♄.) fruit unequally and somewhat 4-winged, clavate, small: flowers small.

Halesia. In honor of Dr. S. Hales, the eminent physiologist.

(1) bifolia, 3d ed. Man. proposed and described as a new species by Ea. 1822, named by T. 1826. (2) Orchis, Bw.

(3) Orchis clavellata, Mx. (4) michauxii, N. Orchis, Mx.

4—2. HAMAME'LIS. 54. 78.

virginica, W. (witch hazle. O. y. Oc. ♄.) leaves obovate, acute, toothed, cordate, with a small sinus. Var. *parvifolia*, (A.) leaves oblong-ovate, upper part undulate-coarse-crenate, pubescent and somewhat hirsute beneath: divisions of the calyx oblong: flowers in the fall, and perfects the fruit the next summer. 5—15 f. *S.*

Southern.

macrophylla, Ph. (♄.) leaves roundish, cordate, coarsely and obtusely toothed: scabrous and punctate beneath. A doubtful species.

20—5. HAMILTO'NIA. 43. 25.

oleifera, W. (1) (american oil-nut, A. g-y. J. ♄.) pubescent: leaves oblong, entire, acuminate: flowers in terminal racemes. Flowers small. 4—6 f. *S.* C.

Hapalostemium, *Harpalya*, HIERACIUM.

Harpalyce, PRENANTHES.

13—1. HEDEO'MA. (2) 42. 42.

pulegioi'des, (penny-royal. O. b. J. ☉.) pubescent: leaves oblong, serrate: peduncles axillary, whorled. 6—8 i. *S.*

glabra, P. (3) (W. r-p. Au. 2[ ) smooth: stem surculose: radical leaves nearly oval: cauline ones oblong-linear, all entire; flowers axillary, mostly solitary, long-peduncled. 6—12 i. *S.* F. D. Niagara Falls.

Southern.

hispida, Ph. (4) (W. Ju. ☉.) branching, pubescent: leaves linear, acutish at both ends, very entire, veined, revolute at the margin, whorls many-flowered: calyx strigose. 3—6 i.

bracteolata, N. pubescent: stem simple, slender: leaves linear, sub-lanceolate, acute at each end, entire: pedicels 3—5-flowered: bracts setaceous.

5—1. HE'DERA. 46. 58.

Exotic.

helix, (english ivy. g-w. S. ♄.) leaves 3 or 5-lobed; floral ones ovate: umbel erect.

Hamamelis. Gr. *amamēlis*, from *ama*, accompanying, and *mēlea*, apple-tree; applied, it is thought, because the apple in fruit accompanies this flower.

Hamiltonia. Dedicated by Muhlenberg, to Mr. Hamilton, an American patron of botany.

Hedeoma. Gr. *edus*, *edeos*, eatable, perhaps so called from its fragrance.

Hedera. said to be from *hœdus*, a kid, being given to increase the milk of goats.

(1) Pyrularia pubera, Mx.

(2) Cunila, L. (3) Cunila glabella, Mx. (4) hirta, N.

Hedera, AMPELOPSIS.

Hedychloa, KYLLINGIA.

4—1. HEDYO'TIS. 13. 57.

glomerata, Mx. (1) (creeping green head. w-g. M. ☉.) stem assurgent: leaves lanceolate, pubescent, attenuate at the base: flowers fascicled, axillary and terminal. *S.* W. Y.

Southern.

lanceolata, Dc.(2) glabrous; stem erect, 4-sided, angles somewhat winged: leaves sessile, lanceolate, acute; stipules lanceolate, membranaceous: corymbs trichotomous, terminal: corols funnel-form, with exsert anthers. Carolina.

16—10. HEDYSA'RUM. 32. 93.

canadense, (bush trefoil. O. r. Ju. 2ℓ.) erect, smoothish: leaves ternate, lance-oblong: stipules filiform: flowers racemed: bracts lance-ovate, acuminate, ciliate: joints of the loment obtusely triangled, hispid. 3 f. *S.*

canescens, W. (r-b. Au. 2ℓ.) erect, pilose: stem angled, ciliate, hispid: leaves ternate, roundish, with close-pressed hairs beneath: stipules ovate, acuminate: racemes panicled: bracts cordate: joints of the loment triangular, hispid. *S.* P. Y.

marylandicum, W. (W. p. Ju. 2ℓ.) erect: branching, pilose: leaves ternate, oblong, villose beneath: stipules subulate: racems panicled: loment 3-jointed; the joints rhomboid, reticulate, a little hairy. *S.* P. Y. O. I'.

ciliare, W. (O. p. Au. 2ℓ.) erect, sub-pubescent: leaves ternate, ovate, short-petioled, pubescent beneath, margin ciliate: stipules filiform: panicle terminal: joints of the loment (2 or 3) half orbicular, hispid, reticulate. Var. *oblongifolium*, E. leaves longer, nearly glabrous, sub-glaucous beneath. long-petioled. 2 f. *S.*

viridiflorum, L. not Ph. (g. & p. J. 2ℓ.) erect; leaves ternate, ovate, obtuse, scabrous on the upper surface, soft-villose beneath: panicle terminal, long, naked: joints of the loment triangular. E. 3—4 f. *S.* Y. M. N. D. P. C. F. T.

aikini, Ea. (3) (W. g. & p. Au, 2ℓ.) erect, branching, pubescent: leaves ternate, ovate-oblong and sub-deltoid, acute-mucronate, scabrous beneath: stipules cuspidate: racemes panicled, bracted. Flowers be-

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Hedyotis. Gr. *edus*, sweet, and *ous (otos)* the ear; said to cure deafness.
Hedysarum. Uncertain; supposed from *ēdus*, sweet, and *aroma*, fragrance, applied to the flowers of some species.

(1) Oldenladia, Mx. (2) Anotis, Dc.

(3) viridiflorum, Ph. not Lin. See Elliott. Vol. II. p. 217. As the viridiflorum of Linneus is retained by Elliott and Torrey, and as we certainly have Pursh's plant in abundance, it becomes necessary to give the latter a new name. I have given this name as an expression of my esteem for Dr. William Aikin, a most indefatigable and very accurate young botanist.

come greenish in full maturity. 3 f. Very abundant on the islands about Troy, N. Y.

obtusum, W. (W. p. &. g. Au. 2f.) erect, slender, sub-pubescent: leaves ternate, ovate, obtuse, sub-cordate at the base: stipules subulate: panicle terminal: joints of the loment sub-orbiculate, reticulate, hispid. 1—2 f. S. P. Y. N. M. T.

humifusum, M. (p. Au. 2f.) stem prostrate, sub-glabrous: leaves ternate; leafets ovate or oval, acutish, slightly hairy: racemes elongated: joints of the loment sub-rhomboidal, hispid. B.

rotundifolium, Mx. (W. p. Au. 2f.) prostrate, hirsute: leaves ternate, orbicular, pilose both sides: stipules round-cordate, reflexed: racemes axillary, and in the terminal panicles few-flowered: joints of the loment sub-rhombic, reticulate-scabrous. 2—3 f. S. T. N.

paniculatum, W. (W. p. Ju. 2f.) erect: leaves ternate, lance-linear, smoothish, revolute at the margin: stipules subulate: panicle terminal: loment hispid; joints somewhat triangular. 2—3 f. S. B. O. H. M. F. C. P. N. T.

strictum, Ph. (W. p. Ju. 2f.) stiffly erect, glabrous, simple: leaves ternate, sub-linear, net-veined: stipules subulate: racemes axillary and terminal: loments about 2-jointed; joints lunate-triangular, hispid. 2—3 f. S.

laxigatum, N. (W. p Au. 2f.) very smooth: stem simple, erect, sub-glaucous: leaves ternate, long petioled; leafets ovate, acute: stipules subulate, minute, caducous: panicle terminal, sub-simple: flowers in pairs on long peduncles: bracts ovate, acute, shorter than the flower-buds; joints of the loment triangular, hispid. S. Y.

nudiflorum, (W. p. Ju. 2f.) leaves ternate, broad-oval, acuminate, sub-glaucous beneath: scape panicled, glabrous, radical, taller than the stem: joints of the loment round-triangular. 1—2 f. S. Y. B. O. N. C. P.

glutinosum, W. (W. p. Ju. 2f.) erect simple: leaves long-petioled, ternate, round-ovate, acuminate: panicle scape-like, proceeding from one side of the base of the stem: peduncles with glutinous hairs; joints of the loment oblong-triangular, a little glabrous. S.

acuminatum, Mx. (O. p. Ju. 2f.) erect, simple, pubescent, leafy at the summit: leaves ternate, ovate, long acuminate, with scattered hairs on both sides, close-pressed, long-petioled; the odd leafet round-rhomboid: panicle long-peduncled, terminal. 1—2 f. S.

bracteo'sum, Mx. (1) (r. Au. 2f.) erect, glabrous: leaves ternate, oblong-oval, acuminate: stipules subulate: racemes terminal, with scattered flowers: bracts ovate, acuminate, striate, glabrous: joints of the loment sub-oval. 3—5 f. S. N. T.

alpi'num, Var. *americanum*, Mx. (2) (W. A. p. 2f.) erect: leaves pinnate: leafets oval-oblong, hairy; stipules partly sheathing: joints of the loment roundish. S. R. Canada.

glabellum, Mx. (W. p. Ju. 2f.) erect, glabrous: leaves ternate, ovate-obtuse, sub-glaucous beneath, stipules small, subulate: panicle terminal: joints of the loment rhomb-triangular. 2 f. S. D. C.

pauciflorum, N. (W. w. 2f.) decumbent: stem filiform: leaves ternate, long-petioled; leafets broad-ovate, acuminate, pubescent-ciliate; terminal one broad-rhomboid: stipules obsolete: raceme terminal, pe-

(1) cuspidatum, W. (2) boreale, N†

duncled, shorter than the leaves, very few-(4—8) flowered. Canada.

mackenzii, R. ( ) caulescent: decumbent: leaves pinnate; leafets oblong, both sides, becoming whitish-pilose: stipules sheathing: joints of the loment, transversely rugose, pilose. A.

Southern.

lineatum, Mx. (2f.) stem creeping, striped with green: leaves ternate, roundish, sub-sessile: racemes long, with small scattered flowers: joints of the loment lenticular.

rigidum, E. (W. p. Au. 2f.) erect, very branching: leaves oblong-ovate, obtuse, reticulate, pubescent: panicle branching: bracts lance ovate, acuminate. 3 f.

rhombifolium, E. (p. S. 2f.) pubescent: leaves ternate, rhomboid, obtuse, thick, reticulate, rugose: panicle compound: bracts small: loment 1—3-jointed; joints roundish, veined. 2—3 f.

scaberrimum, E. (p. Ju. 2f.) erect, very scabrous: leaves ternate, ovate, tapering towards the apex, acute, pilose-pubescent: stipules ovate, acuminate, persistent: panicle terminal: joints of the loment somewhat triangular, very hispid. 3—4 f.

Hedysarum, LESPEDEZA.

17—2. HELE'NIUM. 49. 55.

autumnale, (false sunflower. O. y. Au. 2f.) leaves lanceolate, serrate, sub-decurrent: stem corymbed above: disk florets 5-cleft: rays flat, reflexed. Var. *pubescens*, leaves pubescent. 3—5 f. *S.*

Southern.

canaliculatum, Lk. leaves lanceolate, serrate, sub-decurrent: stem simple: disk florets 5-cleft: ray-florets channelled.

quadridentatum, Mx. (O. Ju. 2f.) leaves broad-decurrent: lower ones sub-pinnatifid; upper ones lanceolate, entire. glabrous: disk florets 4-toothed. 3—4 f.

tenuifolium, N. (W. y. 2f.) leaves very long and narrow linear: branches 1-flowered: egret very long, acuminate, bearded: stem low, naked. 9 i. Alabama, Mississippi.

Helianthemum, CISTUS.

17—3. HELIAN'THUS. 49. 55.

1. *Leaves opposite.*

atrorubens. W. (W. y. & p. Au. 2f.) hispid: stem nakedish above, lax-panicled; leaves spatulate, ovate, crenate, 3-nerved, scabrous above: scales of the calyx lance-ovate, of the length of the disk. 3—4 f. S. P.

divaricatus, (y. Au. 2f.) stem glabrous, very branching; leaves nearly opposite, sessile, lance-ovate, 3-nerved, scabrous above, smooth be-

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Helenium. From Helen, the wife of Menelaus, who is said to have used it as a cosmetic.

Helianthus. Gr. *ēlios*, the sun, and *anthos*, flower, because it turns with the sun.

neath: panicle trichotomous, slender, few-flowered. 5—6 f. *S. T.* Y. P. B. C. O. N. F.

frondosus, W. (W. y. Ju. 2ℓ.) stem smooth below; leaves lance ovate, remotely and acutely serrate, scabrous above, paler and sub-scabrous beneath, 3-nerved: peduncles scabrous; petiole ciliate; calyx squarrose, undulate, leafy, ciliate: rays 8-flowered. 4—5 f. T. Y. P. N. Canada.

trachelifolius, W. (1) (W. y. Au. 2ℓ.) leaves short-petioled, lance-ovate, coarse serrate, acuminate, 3-nerved, scabrous above, rough-haired beneath: scales of the calyx lanceolate, acute, ciliate, pubescent, spreading at the tips: rays numerous. 2—4 f. *S.* T. Y. P. V. W. C. N. F.

hispidulus, E. (W. y. S. 2ℓ.) stems scabrous: leaves sessile, lance-ovate, tapering towards the summit, serrulate, scabrous above, paler and slightly hispid beneath: scales of the calyx lance-ovate, ciliate: chaff 3-toothed. 3—4 f. *S.* D.

2. *Upper leaves alternate.*

angustifolius, W. (2) (y. & p. O. 2ℓ.) stem slender, slightly scabrous: leaves narrow-lanceolate, revolute at the margin, scabrous, entire, glaucous beneath: scales of the calyx lance-linear, ciliate, expanding: chaff 3-toothed. 3—5 f. *S.* Y. C.

mollis, W. (y. Ju. 2ℓ.) stem smooth below, scabrous above: leaves lance-ovate, acute, serrate, scabrous above, pubescent and hoary beneath: flowers few, terminal. 3—6 f. *S.* F. P. N.

strumosus, W. (W. y. 2ℓ.) leaves ovate, acuminate, serrate, 3-nerved, scabrous beneath: scales of the calyx lance-linear, ciliate at the base. T. O.

altissimus, W. (W. y. Au. 2ℓ.) leaves alternate, lance-ovate, serrate, scabrous, 3-nerved, slender at the apex, with ciliate petioles; scales of the calyx lanceolate; ciliate. Chaff on the receptacle green: stem purple. 4—8 f. *S.* T. H. M. F. N.

giganteus, W. (W. y. S. 2ℓ.) leaves lanceolate, scabrous, alternate, obscurely 3-nerved, sub-sessile, attenuate at each end, ciliate at the base: scales of the calyx lanceolate, ciliate. Var. *crinitus*, leaves approximate, long, lance-linear, acuminate, sub-entire, scabrous, subsessile, both sides colored alike: calyx squarrose: segments linear. 5—6 f. *S.* C. F. P.

decapetalus, (W. y. Au. 2ℓ.) leaves ovate, acuminate, remotely serrate, 3-nerved, scabrous, pubescent beneath: scales of the calyx lanceolate, sub-equal, sub-ciliate: rays ten or twelve. 3—4 f. *S.* N. D.

multiflorus, W. (A. S. 2ℓ.) leaves 3-nerved, scabrous; lower ones cordate; upper ones ovate: rays many-flowered: scales of the calyx lanceolate. *S.*

macrophyllus, W. (y. Au. 2ℓ.) leaves ovate, acuminate, 3-nerved, unequally-serrate, scabrous above, white pubescent beneath: scales of the calyx long-linear, spreading, ciliate at the base: chaff pubescent above? *S.* P.

petiolaris, N. (W. y. & p. Au.) leaves alternate, ovate, acute, somewhat entire, very long petioled, scabrous: stem ereot, branching: flowers long-peduncled: seeds villose. *S.*

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(1) gigas, Mx. (2) Rudbeckia, W. in the same work.

lenticularis, Lind. (☉.) leaves ovate, acuminate, coarsely serrate, hispid, three-nerved, peduncles in single heads, equal. A. R.

ballii,* (1) (y.) leaves lance-oblong, obtuse, very longly-attenuated into the petiole: scales of the calyx spreading, broad lanceolate, ciliate: egret with awns solitary or in twos unequal, strong. R.

Exotic.

tuberosus, (jerasalem artichoke. y. S. 2f.) leaves 3-nerved, scabrous: lower ones heart-ovate; upper ones ovate, acuminate: petioles ciliate. Root tuberous. Naturalized. 4—8 i.

annuus, (common sunflower. y. & w. Ju. 2f.) leaves all cordate, 3-nerved: peduncles thickening upwards: flowers nodding. 6—10 f.

Southern.

1. *Leaves opposite.*

pubescens, W. (2) (W. y. Au. 2f.) hoary-pubescent: stem villose: leaves sessile, heart-ovate, clasping, 3-nerved, crenulate, very soft: scales of the calyx lanceolate, villous, 2—3 f.

longifolius, Ph. (O. y. S. 2f.) very glabrous: stem panicled: branches few-flowered at the summit: leaves sub sessile, very long-lanceolate, 3-nerved, very entire; lower ones serrate: scales of the calyx ovate, acute; outer ones linear, divaricate. 4—7 f.

sparsifolius, E. (y. & p. Au. 2f.) stem scabrous: branches sub-glabrous: leaves ovate, acute, coarsely toothed, hispid, very scabrous on both sides, abruptly contracted into the petiole: scales of the calyx lance-oval, ciliate. 4—5 f.

truncatus, Sz. (W. y. S. 2f.) stem slender glabrous: leaves ovate, serrate, tapering towards the apex, hairy, scabrous, closely sessile: scales of the calyx lance ovate, ciliate: chaff lanceolate, ciliate, pubescent. 2 f.

tenuifolius E. (y. S. 2f.) stem smooth: leaves lance-ovate, acuminate, coarsely serrate, a little scabrous on both sides, long petioled, membranaceous: scales of the calyx lanceolate, ciliate: flowers small. 4 f.

spatulatus, E. (y. S. 2f.) stem scabrous above: leaves spatulate-ovate, sub-acuminate, serrate, scabrous above, pubescent beneath: branches opposite; scales of the calyx lanceolate, hispid: chaff acuminate, entire. 4—6 f.

tricuspis, E. (y. S. 2f.) leaves oblong, lance-ovate, scabrous on both sides: scales of the calyx broad-subulate, ciliate: chaff of the receptacle tricuspidate. 3—4 f.

diversifolius, E. (y. S. 2f.) stem scabrous: lower leaves lance-ovate, acuminate; upper ones heart-ovate, mucronate; all scabrous above, and pubescent beneath: scales of the calyx lanceolate, ciliate: chaff slightly 3-toothed. 3—5 f.

heterophyllus, N. (y. 2f.) stem 1-flowered, slender: leaves pilose-hirsute, mostly opposite; radical ones oblong-elliptic; upper ones lance-linear, all entire: scales of the calyx lanceolate, acuminate. 1—3 f. Alabama.

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(1) longifolius. (2) mollis, Lk. canescens, Mx.

*In honor of John Ball, Esq. a naturalist who travelled beyond the Rocky Mountains.

scaber'rimus, E. (W. y. S. 2ſ.) leaves lanceolate, very scabrous on both sides, nearly entire: scales of the calyx ovate: chaff of the receptacle entire, ciliate on the back. 4—6 f.

tubaeformis, W. (W. ☉.) leaves cordate, wedge-form at the base, villose, 3-nerved: peduncles thickened, hollow.

lastiflorus, P. (2ſ.) leaves opposite, ovate oblong, 3-nerved, serrate, rough: peduncles elongated: scales of the calyx lanceolate, erect, ciliate: rays many-flowered, very long.

pauciflorus, N. (W. y.) leaves lance-linear, acuminate, serrate, smoothish: stem naked, trichotomous, few-flowered: calyx close-imbricate: divisions ovate. 4—5 f.

2. *Upper leaves alternate.*

tomento'sus, Mx.? E. (y. S. 2ſ.) stem rough: leaves lance-ovate, tapering to the summit, acute, serrulate, scabrous above, tomentose beneath, generally alternate: scales of the calyx leafy, squarrose, lanceolate: chaff 3-cleft. 4—6 f.

aristatus, E. (y. S.) stem erect, scabrous: lower leaves opposite, closely sessile, lance oval, acute, toothed, scabrous, hairy beneath: corymbs few-flowered: seeds compressed: awns 2, persistent. This species appears to be intermediate between Actinomeris and Helianthus, and may belong to a distinct genus. Elliott. 2—3 f.

17—2. HELIOP'SIS. 49. 55.

lævis, P. (1) (ox-eye. O. Ju. 2ſ.) stem glabrous: leaves opposite, ovate, serrate, 3-nerved, smooth beneath. 3—5 f. *S.*

scabra, Dunham. (W.) leaves shortly petioled, ovate, 3-nerved, deeply serrate, apex very entire, both sides scabrous: involucre pubescent. Red river.

5—1. HELIOTRO'PIUM. 41. 43.

Southern.

indicum, (turnsole. b. Ju. ☉.) leaves heart-ovate, acute, roughish: spikes solitary: fruit bifid. 8—12 i. Florida.

curassavicum, (O. y. w. J. ☉!) leaves narrow lanceolate, succulent, glabrous, without veins: spikes conjugate. 6—12 i.

europeum, (w. ☉.) leaves ovate, very entire, tomentose, rugose: spikes conjugate. Inodorous. H.

12—13 HELLEBO'RUS. 26. 61.

foetidus, (hellebore.) stem many-flowered, leafy: leaves pedate, remotely serrate, coriaceous: corol somewhat converging.

Heliopsis. Gr. *ĕlion*, the sun, and *opsis*, face, from its yellow rays.

Heliotropium. Gr. *ĕlion*, the sun, and *trope*, a turning, because it turns its leaves to the sun.

Helleborus. Gr. *elein*, to cause death, and *bora*, food, on account of its poisonous properties.

(1) Helianthus lævis, L. Rudbeckia oppositifolia, L. in another place. Buphthalmum helianthoides, W. Silphium solidaginoides, L. the last time he notices it.

Helleborus, COPTIS.

6—3. HELO'NIAS. 10. 13.

latifolia, Mx. (1) (helonias. p. M. 2ℓ.) scape almost leafless: spike ovate, crowded: bracts lance-linear: leaves lanceolate, mucronate, nerved. *S.* P. Y.

paniculata, N. (J. 2ℓ.) monoecious, scape below leafy, paniculate; above, below the apex fructiferous: bracts membranaceous, acuminate: petals lance-oblong: stamens exsert: anthers yellow.

erythrosperma, Mx. (2) (w. & g. J. 2ℓ.) scape leafy: racemes oblong: bracts short: leaves linear, very long: seed ovate, reddish: capsule shortened with divaricate horns. 2 f. *S.* P.

angustifolia, Mx. (J. 2ℓ) scape leafy: leaves linear, subulate: raceme simple, terminal; capsules oblong, covering at the summit: seeds linear. 2 f. *S.* P. Florida.

dioica, Wr. (3) (blazing star, false unicorn root. W. w. J. 2ℓ.) scape leafy: racemes spiked, nodding: pedicels short, sub-bracted: filaments longer than the corol; petals linear; leaves lance-oblong. Generally dioecious. 1—2 f. *S.* P. T. Y. F. C. O. Cattskill, Great Barrington.

Southern.

dubia, Mx. (2ℓ.) leaves grass-like, very long and narrow: scape naked: spike slender: flowers small, sessile. 2—3 f.

Helonias, XEROPHYLLUM.

5—2. HELOSCIA'DIUM. 45. 60.

Southern.

sodiflorum. Dc. (2ℓ.) stem procumbent, striate: leaves gash-pinnate, segments oblong, equally serrate: umbels opposite the leaves, sessile or shortly pedunculed: involucre none or few-leaved, deciduous.

leptophyllum, Dc. ( ) described under Æthusa.

californicum, H. ( ) procumbent? leaves pinnate, in 6—9-pairs, with an ovate terminal one, acute, gash-serrate; lower ones pinnatifid or pinnate, divisions few: umbels lateral and terminal: involucres and involucels many-leaved: styles elongated. Douglas says the stems are from 2—3 feet high—probably not procumbent. R.

Helonias. Derived from *ēlos*, a marsh, where some species grow.

Heloscia dium. Gr. *elos*, button, protuberance, *skiados*, shade, pavillion. Sed quere.

(1) bullata, W.

(2) Melanthium luteum, W. phalangioides, Lk. muscaetoxicum, Wr. Anthericum subtriginum, Jn.

(3) pumila, Jn. Melanthium dioicum, Wr. densum, Lk. Veratrum luteum, L. It is still placed where Linneus left it by N., but it differs too widely in habit and sensible qualities to remain with the Veratrum viride.

6—1. HEMEROCAL'LIS. 10. 14.

Exotic.

flava, (yellow day-lily. y. Ju. 2ℓ.) leaves broad-linear, keeled: petals flat, acute; nerves of the petals undivided.

fulva, (tawny day lily. y. Ju. 2ℓ.) leaves linear-lanceolate, keeled: three inner petals obtuse, undulate; outer nerves of the petals branching. Naturalized. 3 f.

japonica, (w. Au.) leaves cordate, acuminate: corol funnel shaped. Japan.

2—1. HEMIAN'THUS. 40. 37.

micrantha, Ph. (1) (w. Au. ☺.) glabrous, succulent: leaves closely sessile, ovate, and oval, obtuse, entire, nerved: peduncles shorter than the leaves: calyx 5-cleft: style 2-cleft. *S.* Y.

12—13. HEPAT'ICA. 26. 61.

acutiloba, Dc. (heart-liverleaf. O. w. & b. Ap. 2ℓ.) leaves cordate, 3 to 5-lobed: lobes entire, acute: leaves of the calyx acute. Grows in woods, preferring the north side of hills and mountains. This is the Var. *acuta* of the *triloba*, of W. 5 i.

americana, Dc. (kidney-liverleaf. O. w. & b. Ap. 2ℓ.) leaves heart-reniform, 3-lobed; lobes entire, round-obtuse: leaves of the calyx obtuse. Grows chiefly in woods, preferring the south side of hills and mountains. This has been mistaken for the *triloba* of W. 5 i.

The last species has lately come into great repute as a *tonic*, *deobstruent*, and *diuretic*. Prof. Tully believes its powers are exaggerated, and that it cannot be relied on in a dangerous disease, but that it may be considerably useful in moderate complaints. It ought not to be called the Liverwort, as this is the well known name of the Marchantia polymorpha. Its true English name is Liverleaf.

5—2. HERAC'LEUM. 45. 60.

lanatum, Mx. (master-wort, cow parsnip. O. w. J. 2ℓ.) petioles and nerves of the leaves very villose beneath; leafets petioled, broad, round-cordate, sub-palmate-lobed: seed orbicular. A large umbelliferous plant of a white woolly appearance. Meadows and other damp places. Very poisonous.

douglassii, Dc. (2ℓ.) leaves below scabrous, also the petioles: above glabrous, gash-3-cleft; segments petioled, cordate, 3—5-lobed, acuminate, dentate: leafets of the involucre many, subulate at the apex: fruit obovate glabrous: dorsal leafet elongated, sub-clavate: commissures 2-short, clubform, and 2 others very small, sub-abortive. R.

Hemerocallis. Gr. *ēmera*, a day, and *kallos*, beauty; applied, with singular propriety to the beauty and short duration of the flower.

Hemianthus. Gr. *emisus*, half, and *anthos*, flower, from their form.

Hepatica. Gr. *ēpar*, the liver, the leaves having a resemblance to the human liver.

Heracleum. Dedicated to Hercules, who is said to have added a knowledge of Botany to his other exploits. Du.

(1) micranhemoides, N. Herpestis, Ph.

spondylium, (W. ♂.) leaves pinnate: leafets 5, oblong, pinnatifid, acute, dentate: corol nearly uniform.

13—2. Herpes'tis. (1) 40. 37.

cuneifolia, Mx. (b. Au. 2ℓ.) very glabrous: leaves wedge-obovate, obscurely crenate above: peduncles as long as the leaves: corol 5-cleft. *S.*

Southern.

rotundifolia, Mx. (W. b. Au.) finely pubescent: leaves oval, roundish, many-nerved: peduncles opposite, as long as the leaves: corol 4-cleft.

amplexicaulis, Mx. (2) (Au.) stem woolly: leaves cordate, clasping, entire, obtuse: peduncles shorter than the leaves: corol 4-cleft. Charleston, S. C.

brownei, Ph. (W.) leaves oblong, entire: peduncles longer than the leaves: stem declined.

14—2. Hes'peris. 39. 63.

pinnatifida, Mx. (wild rocket. W. J. ♂.) leaves sharply serrate; upper ones lanceolate, lower ones pinnatifid: silique sub-peduncled: pedicel at length much longer than the calyx. 1 f. *S.* P. K.

matronalis, (garden rocket, dame violet. W. 2ℓ.) stem simple, erect: leaves-ovate, denticulate: petals emarginate, mucronate. Var. *hortensis*, flowers double, odoriferous, white. Said to be a native on Lake Huron. Dr. Todd.

pygmæa, H. (p. ☉.) leaves lance-linear, attenuate at the base, entire or dentate: pubescence two parted, appressed: siliques numerous, erect, compressed, pubescent: stem erect, simple. A.

menziesii, H. (2ℓ.) leaves spatulate, fleshy: pubescence two-parted, appressed: siliques spreading (when young:) stem very short, erect, simple. California. R.

Exotic.

tristis, (yellow rocket. ♂.) stem hispid; branches spreading: leaves lance-ovate: silique sword-form.

8—1. Heteran'thera. 6. 17.

reniformis, Mx. (3) (mud-plantain. W. g-w. Ju. 2ℓ.) leaves round-reniform: spathe oblong, acuminate, 2—3-flowered. 4—8 i. *S.* T. Y. P. C.

Southern.

ovalis, Mx. (4) (W. b. Ju. 2ℓ.) leaves ovate-oblong: spathe lanceolate, one flowered.

Herpestis. Gr. *erpestes*, any thing which creeps.

Hesperis. Gr. *ĕsperos*, the evening, because the flower is more fragrant in this part of the day than in any other.

Heteranthera. Gr. *eteros*, other or different, and *aner*, anther, because the anthers are of different sizes in the same flower.

(1) Monniera, Mx. (2) Obolaria caroliniana, Wr.
(3) acuta, Vahl. Leptanthus, Mx. virginica, P.
(4) limosa, Vahl. Leptanthus, Mx.

5—2. HEUCHE'RA. 13. 84.

americana, (1) (alum-root. W. r. Ju. 2ſ.) viscid-pubescent: scape and leaves roughish: leaves round-lobed, with dilated obtuse mucronate teeth: panicle dichotomous: calyx short obtuse: petals lanceolate as long as the calyx: stamens exsert. 2—3 f. S. F. T. Y. P. C. H. D. Catskill.

pubescens, Ph. (W. r. & y. J. 2ſ.) dusty-pubescent: scape glabrous below: leaves sub-acute-lobed, toothed, glabrous beneath: peduncles of the panicle short, with crowded flowers: calyx bell-form: petals longer than the calyx, large: stamens scarcely exserted. 2 f. S. P. M. Allegany Mts. McNab.

hispida, Ph. (A. p. J. 2ſ.) hispid scabrous: scape, petioles and leaves glabrous beneath: leaves hispid-pilose above, acute-lobed, toothed; teeth very short, sub-retuse, mucronate; peduncles of the panicle few-flowered: calyx shortish, sub-acute: petals spatulate as long as the calyx: stamens exsert.

caulescens, Ph. (W. A. w. J. 2ſ.) suffruticose at the base: scape at the base, and petioles pilose: leaves glabrous above, pilose at the nerves beneath, acutely lobed, ciliate, dentate; teeth acute, mucronate; calyx short, villose: petals linear twice as long as the calyx: stamens exsert.

bracteata, (W. 2ſ.) pubescent: scape racemed: leaves heart-orbicular, gash-serrate, teeth mucronate: flowers bracted; petals very narrow, scarcely as long as the calyx: stamens not exsert. R.

acerifolia, R. (W. 2ſ.) petioles hirsute; leaves smooth, glaucous beneath, acutely 5-lobed, unequally toothed—teeth mucronate: scape smooth: panicle elongated, lax-flowered: petals short, stamens exsert. Kentucky, Maryland.

micrantha, Douglass. (W. 2ſ.) leaves roundish, cordate, acutely crenate, sub-5-lobed: petioles long, having scattered hairs as well as the base of the stem; cauline leaves gashed: panicle compact: petals lance-linear entire; stamens exsert.

villosa, Mx. (A. w. J. 2ſ.) very villose: leaves acutely lobed, toothed: teeth acute, mucronate: fascicles of the panicle, capillary, lax-flowered: calyx short: stamens exsert.

16—13. HIBIS'CUS. 37. 74.

moscheutos, W. (2) (marsh mallow. W. w. & p. Au. 2ſ.) leaves ovate, acuminate, serrate, sub-3-lobed, sub-5-nerved, white-downy beneath: peduncles flower-bearing: calyx downy: capsule glabrous. 4—6 f. S. Y. Canada.

palustris,* (marsh hibiscus. W. p. Au. 2ſ.) leaves broad oval, obtusely serrate, sub-3-lobed, 3-nerved, downy beneath, acuminate: peduncles axillary, longer than the petiole. 3—4 f. P. Y. B. C. F. Newburgh, Canada, Salina.

militaris, (3) (W. w-r. Au. 2ſ.) very glabrous: leaves 3-lobed, hastate,

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Heuchera. In honor of J. H. Heucher, Prof. of medicine in Wittenberg, in 1711.

Hibiscus. *ibiskos*. The ancient Greek name of the marsh mallows.

(1) cortusa, Mx. viscida, Ph. (2) palustris, Wr.
(3) virginicus, Wr. hastatus, Mx. riparius, P.

* This is undoubtedly synonymous with H. *moscheutos*, as the position of the peduncle is not constant. Aikin.

acuminate, serrate: corol tubular: campanulate: capsules ovate, acuminate, glabrous: seeds silky. 3—4 f. S. P.

virginicus, (1) (sweat weed. L. r. Au. 2f.) downy, rough: leaves acuminate, unequally toothed; lower ones cordate, undivided; upper ones cordate-oblong, 3-lobed; peduncles axillary, and in terminal racemes: flowers nodding: pistils nodding. 2—4 f. S. P. Y.

Exotic.

phœniceus, (phenicean mallows. r. Ju. 2f.) leaves ovate, acuminate, serrate, and crenate, lower ones 3-cuspidate: peduncles jointed: seeds woolly. 6—8 f.

syriacus, (syrian mallow. w. & p. Au. ♄.) leaves wedge ovate, 3-lobed, toothed: outer calyx about 8-leaved, of the length of the inner. 5—10 f.

esculentis, (okra. y. Ju. ☉.) leaves heart-5-lobed, obtusish, toothed: petiole longer than the flower: outer calyx abont 5-leaved, caducous, bursting lengthwise. 3 f.

trionum, (bladder ketmia, flower of an hour. ☉.) outer calyx many-leaved, inner one inflated: capsule membranaceous: leaves toothed, upper ones 3-parted. 6—18 i.

Southern.

grandiflorus, Mx. (W. r. Au. 2f.) leaves large, coriaceous, triangular-cordate, 3-lobed, tomentose on both sides: hoary beneath: capsules tomentose, sub-truncate. 5—7 f.

incanus, W. (y-w. S. 2f.) leaves ovate, acuminate, obtusely serrate, hoary-tomentose on both sides: peduncles axillary: calyx tomentose, nearly equal.

coccineus, Wr. (2) (r. Au. 2f.) very glabrous: leaves palmate-5-parted; divisions lance-linear, acuminate, remotely serrate at the apex: capsule ovate, glabrous. 4—8 f.

manihot, W. (W. y. & p. Au. 2f.) stem and petioles unarmed: leaves palmate-digitate, 7-parted; divisions linear: peduncles hispid: outer calyx 1-leaved; inner one torn: capsule very hirsute, pyramidal.

scaber, (3) (y. & p. Au. 2f.) stem scabrous: lower leaves cordate, angled; upper ones palmate, 3—5-lobed; lobes irregular-dentate angled: calyx very hispid; inner one twice as long as the outer. 3 f.

carolinianus, M (p. Au. 2f.) leaves cordate, ovate, acuminate, serrate, smooth on both sides, sometimes sub-3-lobed: seeds hispid. 4—6 f.

17—1. HIERA'CIUM. 49. 53.

venosum, (vein-leaf hawkweed, bloodwort. O. y. Ju. 2f.) scape naked, corymb-panicled glabrous: leaves lance-obovate with thin hairs above and naked beneath, margin ciliate, glandular-toothed, veins coloured, calyx glabrous. 1—2 f. S.

gracile, H. ( ) scape naked or one-leaved, glabrous, cyme-racemed above, pubescent, and with the calyx black-pilose, sub-glandulous: leaves oblong, obtusish, glabrous, attenuated into a longish petiole, membranaceous, entire: flowers small. 12—18 i. R.

Hieracium. Gr. *ierax*, a hawk, from the vulgar opinion that these birds removed films from their eyes with it.

(1) clypeatus, Wr. (2) speciosus, A. (3) aculeatus, Wr.

albiflorum, H. (w.) stem leafy, with soft reflexed hairs below: leaves broad-lanceolate, entire obtuse, attenuated into a petiole, with long white hairs; cauline leaves remotish, becoming gradually smaller, sessile: panicle slender, many-flowered, glabrous: petioles divaricate: calyx with scattered long white hairs. R.

scouleri, H. ( ) setose-pilose, hairs long, rigid, spreading, tawny: stem leafy, paniculate; panicle large, many-flowered, erect: leaves broad-lanceolate sub-coriaceous, rigid, acute, scarcely toothed; radical ones attenuated into a short petiole; cauline ones remotish, sessile: calyx fuscous-pubescent, the pubescence intermixed with long glandular hairs. P. R.

gronovii, (O. y. Ju. 2[.) scape leafy, naked above, corymb-panicled: calyx and peduncles glandular-pilose: radical leaves obovate and lanceolate, ciliate, very pubescent. Var. *nudicaule*, stem about one leaved; panicle somewhat fastigiate.* 2—3 f. *S.*

paniculatum, W. (O. y. Ju. 2[.) somewhat glabrous: stem erect, leafy panicled, white-woolly below: pedicels capillary: leaves lanceolate, naked, toothed, membranaceous. 2—4 f. *S.*

kalmii, W. (y. Au. 2[.) stem erect, many-flowered, smooth, downy above: leaves sub-sessile, lanceolate, acuminate, sharply toothed outside: peduncles axillary and terminal, downy. B. F. N. T.

marianum, W. (1) (O. y. Ju. 2[.) stem erect, villose: leaves oval-obovate, strigose, villose on the keel, lower ones sub-dentate; peduncles and calyxes downy. 1—2 f. *S.*

pusillum, W. (y. Ju. 2[.) small, very villose: stem simple, erect, one-flowered, somewhat 2-leaved: leaves remote lanceolate, slenderly tapering, acute, entire; cauline ones linear; calyx very villose. Probably a variety of *H. alpinum*. Ph. Labrador.

molle, W. (soft hawk-weed. y. Au. 2[.) pilose: stem erect, simple, leafy, corymbed, few-flowered: leaves lance-oblong, attenuate, sparingly toothed below; radical ones petioled. Labrador.

virgatum, Ph. (2)(O. y. Ju. 2[.) stem erect, simple, villose: leaves sessile, lanceolate, acute, glabrous, pilose beneath, sharply repand-toothed at the margin, entire towards the apex: panicle sub-corymbed: calyx and peduncle tomentose. Var. *scabrum*, Sz. leaves smaller, scabrous, more rigid. 2—3 f.

fasciculatum, Ph. (y. Au. 2[.) somewhat glabrous: stem erect, leafy, simple, glabrous: leaves sessile, oblong, acute, sharply toothed; teeth elongated: branches of the panicle divaricate, short: pedicels pubescent, somewhat fascicled. D. Canada. Middlebury, Vt.

macrophyllum, Ph. (y. 2[.) very tall: stem erect, leafy, hispid, sulcate: leaves cordate, half-clasping, ovate-oblong, remotely coarse-toothed, nearly naked: nerves and veins pubescent beneath: panicle divari-

(1) scabrum, Mx. (2) canadense, Mx.

* Dr. Aikin has written me: after thoroughly studying this and the *venosum* in numerous localities, that they cannot be retained as distinct species. He proposes the following amendment.

H. *gronovii*, (vein-leaf hawk-weed. O. y. Ju. 2[.) scape leafy, panicled above, glabrous: leaves lance-ovate, sub-pilose, ciliate; midrib villose beneath: pedicels and calyx glandular-pubescent. Var. *venosum*, scape naked: leaves smoothish with coloured veins: calyx smooth.

cately corymbed: peduncles elongated, naked, glabrous: calyx glabrous.

sylvaticum, S. ( ) stem leafy, branching above, sub-corymbed, subvillose; peduncles more or less pubescent: leaves lance-ovate or lanceolate, sub-hirsute, dentate, with the teeth erect: calyx with short pubescence. A var. has the leaves lance-ovate, green, teeth minute. Canada.

prenanthoides, Vill. ( ) stem erect, leafy, pubescent-hirsute: panicle corymbose: pedicels and calyxes pilose-glandulous: leaves oblong-cordate, halfclasping at the base; upper ones gradually smaller, ovate-cordate all with coarse remote teeth. D. R. A. Canada.

umbellatum, L. ( ) stem erect, simple, very leafy; leaves lance-linear, somewhat glabrous, toothed and very entire: flowers sub-umbelled: peduncles pubescent: involucres glabrous. D. A.

scabrius'culum, Sz. & Say. (W. y.) stem glabrous, erect, terete, sulcate, leafy; leaves lance-ovate, sessile, clasping, sub-denate, scabrous and somewhat involute at the margin, rugose above, glaucous and pilose beneath: calyx smoothish.

Exotic.

aurantiacum, (orange hawkweed. y. 2[.) scape leafy, hispid: flowers corymbed: peduncles glomerate: leaves oblong, acutish, pilose-hispid.

Southern.

runcinatum, J. (W.) hirsute: leaves radical, oval-oblong, runcinate: scape few-flowered, angular: calyx glandular-pilose. 1 f.

barbatum, N. (W. y. 2[.) very pilose, tall, rigid leaves entire; radical ones cuneate-oblong acutish, upper ones sessile, much smaller, sub-linear: flowers scattered, panicled; branchlets very short, few-flowered: peduncles and calyx pulverulent-tomentose. 3—4 f. Arkansas.

3—2. HIEROCHLO'A. 4. 10.

borealis, Sch. (1) (sweet summer grass, seneca grass. M. 2[.) panicle sub-secund, a little spreading: peduncles smooth: florets unarmed: lower valve of the corol ciliate on the margin: root creeping. 1 f i. O. P. Y. N. B. D. Seneca Lake.

alpina,, Wahl. (A. J. 2[.) panicle ovate, contracted: spikelets compressed, longer than the branches: glumes lanceolate, nearly nerveless: lateral florets triandrous; one of them with an awn about as long as the valves: sides almost smooth, margins ciliate. 6—8 i. White Mts.

20—8. HIPPO'PHAE. 16. 24.

canadensis, W. (sea buckthorn. M. ♄.) leaves oblong ovate, glabrous with scattered stellate pubescence above, stellate, pubescent and scaly

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Hierochloa. Gr. *ieros*, sacred, and *chloe*, green herb or grass; because in Silesia it is strewed before the church doors, and esteemed sacred to the Virgin Mary.

Hippophæ. Gr. *ippos*, a horse, and *phaō*, to destroy, from the supposed qualities of some of the species.

(1) fragrans, Rs. Holcus odoratus, Mx. lanatus, L.

beneath: scales ferruginous and deciduous. 6—8 f. P. Y. O. D. Canada, Schoharie.

argentea, Ph. (W. ♄.) leaves ovate, obtuse, glabrous on both sides and covered with silvery scales. 12—18 f. D.

1—1. HIPPU'RIS. 15. 88.

vulgaris, (mares tail. W. y-g. M. 2ℓ.) leaves linear, and lance-linear, verticiiate in 6s, 8s, 9s. S. P. T. D. Cayuga Lake, plenty. Near Schenectady, rare. U. Canada.

montana, (Reichen) ( ) slender: leaves in sixes linear, acute. A.

maritima, Hel. ( ) leaves in fours or sixes, lanceolate, obtuse scarcely gangrenous. 9—18 i. A.

3—2. HOL'CUS. 4. 10.

lanatus, (soft grass. J. 2ℓ.) panicle equal: florets shorter than the calyx: superior one with a recurved awn: root fibrous. 1—2. f. P. Y. D.

Holcus, HIEROCHLOA, KOELERIA.

3—3. HOLOS'TEUM. 22. 82.

succulentum, (L.) leaves elliptic, fleshy: petals somewhat 3-cleft, shorter than the calyx.

15—12. HO'PEA. 37. 71.

Southern.

tinctoria, (sweet leaf. y. Ap. 2ℓ.) leaves lance-oblong, glaucous pubescent beneath: flowers sessile, axillary, in clusters. 15—18 f. Charleston, S. C. Florida.

3—2. HOR'DEUM. 4—10.

jubatum, (squirrel tail grass. wall barley. W. J. ♂.) lateral florets abortive, neuter: awns of the calyx and corol 6 times as long as the flowers. 2 f. S. B. C. D.

Exotic.

vulgare, W. (barley. Ju. ☉.) florets all perfect, awned, in two ereot rows.

distichon, W. (J. ☉.) lateral florets imperfect, awnless: seeds angular, imbricate.

Southern.

pusillum, N. (W.) lateral florets staminate or neuter, awnless, acute: four inner scales of the calyx coriaceous, dilated; all short awned: awns scabrous. 4—6 i. Decumbent.

Hippuris. Gr. *ippos*, a horse, and *oura*, a tail, this genus having a great affinity to the Equisetum.

Holcus. Gr. *olkos*, the Greek a name of plant, with awns like barley.

Holosteum. Gr. *olesteon* of Dioscorides, from *olos*, whole or perfect, and *osteon*, a bone: in allusion to its consolidating qualities.

Hopea. In honor of Dr. John Hope, Prof. of botany at Edinburgh.

Hordeum. Lat. *hordeum*, the derivation of which is uncertain.

10—10. HORKE'LIA. 35. 92.

congesta, Doug. ( ) radical leaves pinnate; leafets cuneate-oblong, gashed at the apex: exterior divisions of the calyx very entire: petals longer than the calyx. R.

10—3. HORTEN'SIA. 13. 58.

Exotic.

speciosa, (changeable hydrangea. r. & w. J. ♄.) leaves broadly ovate, serrate, acuminate: flowers corymbed. From the East Indies. This is the common flower-pot shrub, usually called hyderindia.

16—10. HOSACK'IA. 32. 93.

bicolor, Douglas (W. y. w.) glabrous decumbent: leafets sub-opposite, 7 to 9, oblong or obovate; stipules heart-ovate, membranaceous, very obtuse: flowers umbelled: bracts 1-leaved or none. Rocky Mts. and west of them.

decumbens, Bent. (W. y. 2[.) rough haired, decumbent: leafets alternate, 4 or 5, wedge-oval, acute; stipules very minute, acute, caducous: flowers umbelled; bracts 1 to 3-leaved. West of Rocky Mts.

parviflora, Bent. (W.) erect, glabrous, chiefly ramose at the base: leafets alternate 4 to 6, obovate-oblong, glaucous beneath; stipules obsolete, caducous: peduncles 1-flowered: bracts under the flowers often 3-leaved. West of Rocky Mts.

unifoliata, Hk. (W.) decumbent, hirsute, branches much spread: leaves generally with a single leafet, rarely 2 or 3, sub-sessile, oval, acute at the apex and base; stipules obsolete: peduncles 1-flowered; bracts under the flowers one-leaved, ovate. West of Rocky Mts.

5—1. HOTTO'NIA. 21. 35.

inflata, E. (1) (water violet. W. w. J. 2[.) flowers whorled, short peduncled; corol shorter than the calyx: scape short, inflated between the joints: leaves alternate, pinnatifid, crowded. *S.* Rhode Island. B. C. F.

4—1. HOUSTO'NIA. (2) 47. 46.

cærulea, (3) (venus' pride, innocence, dwarf pink. O. b. & w. M. 2[.) stem erect, setaceous, dichotomous: radical leaves spatulate; cauline ones oblanceolate, opposite: peduncles 1-flowered, elongated. 4—6 i. *S.*

longifolia, W. (4) (W. p. J. 2[.) leaves narrow-lanceolate, tapering to each end: flowers corymbed. 6—12 i. *S.* P. B. H. D. U. Canada.

Horkelia. The name of a friend to the botanist who gave it, latinized.

Hortensia. From *hortus*, a garden, its former specific name, *Hydrangia hortensia*.

Hosackia. In honor of Dr. David Hosack, of New York, who was the earliest patron of botany in the Northern States.

Hottonia. In honor of John Hotton, the predecessor of Booerhave at Leyden.

Houstonia. In honor of Dr. Wm. Houston, an English botanist of considerable merit.

(1) palustris? Ph. (2) Hedyotis, H. (3) linnei, Mx. (4) angustifolia, Mx.

purpurea, W. (1) (W. p. w. Ju. 2ſ.) stem erect, branching above, pubescent at the joints: leaves sessile, ovate, lanceolate or lance-linear: fascicles terminal, corymbed. 4—8 i. *S.*

ciliolata, T. (W. p.) radical leaves ovate, obtuse, narrowed at the base, ciliate at the margin; cauline ones ovate-spatulate, sessile: corymbs terminal, pedicelled: peduncles trichotomous: divisions of the calyx lance-linear: stem smooth, branched above. Niagara Falls.

pubescens, R. (W.) leaves wedge-form acute, pubescent; lower ones sub-petioled, lanceolate; upper ones sub-oval, sessile: panicle trichotomous, terminal.

patens, T. (2) (p. March. ☉.) small, stem spreading, dichotomous, with scabrous angles: flowers solitary, terminal and axillary. 1—2 i.

Southern.

serpyllifolia. Mx. (O. b. M. 2ſ.) procumbent, cespitose: leaves spatulate, obtuse: peduncles terminal, 1-flowered, very long.

tenella, Ph. (A. b. J. 2ſ.) stem creeping, filiform: leaves round acute, nerved: peduncles terminal, 1-flowered, very long. Smaller than the last.

rotundifolia, Mx. (L. w. Ap. 2ſ.) creeping: leaves ovate roundish, abruptly narrowed at the base: peduncles axillary, solitary, 1-flowered. Leaves evergreen. Florida.

tenuifolia. N. (W.) smooth: stem erect, divaricate, very branching: branches sub-trichotomous: leaves narrow-linear: corymbs terminal, sub-fastigiate, with long setaceous peduncles. 6 i.

minima, Bk. (W. b. March. ☉?) stem erect, simple, 4-cornered, somewhat scabrous: leaves opposite, spatulate-ovate, sub-acuminate, ciliate, scabrous on both sides: flowers peduncled, solitary, terminal. 1—2 i.

12—1. HUDSO'NIA. 18. 80.

ericoides, (false heath. W. y. J. ♄.) leaves acerose-subulate, hirsute, peduncles filiform, solitary. About 6 inches high, a very delicate shrub. Pine barrens. Y.

tomentosa, N. (W. L. y. Ju.) hoary-tomentose: leaves ovate, imbricate, shorter than the intervals of the stem: flowers sub-sessile: calyx obtuse. B. D. Canada. N. Jersey.

Southern.

montana, N. (A.) decumbent, smoothish, cespitose: leaves long filiform-subulate, sub-imbricate: peduncles terminal, solitary: calyx bell-form, woolly: capsule villose. 3—5 i.

20—5. HU'MULUS. 53. 98.

lupulus, (hop. O. g-y. Au. 2ſ.) stem twining with the sun: leaves lobed. One of the best of tonics.

Hudsonia. In honor of Wm. Hudson, a correspondent of Linneus, and author of Flora Anglica.

Humulus. Lat. *humus*, fresh earth, from its choosing rich soil.

(1) varians, Mx. Hedyotis umbellata, Wr. Knoxia purpurea, Lk.

(2) linnei, Var. Mx. coerulea. Var. minor, Ph.

†14—1. HUTCHIN'SIA. 39. 63.

calycina, (w.) white pubescent: leaves mostly radical, deeply pinnatifid, long petioled: calyx permanent: silicles oblong, tapering to both ends, acuminated by the style. A Var. lower leaves all entire. R. A.

6—1. HYACIN'THUS. 10. 16.

Exotic.

orientalis, (garden hyacinth. r. Ap. 2ℓ.) corol funnel-form, half-6-cleft, ventricose at the base.

muscari, (musk hyacinth. b. Ap. 2ℓ.) corols ovate, all equal.

botryoides, (grape hyacinth. b. Ap. 2ℓ.) corols globose, uniform: leaves cylindric, channelled, straight.

comosus, (purple grape hyacinth. p.) corols angular-cylindric; upper flowers sterile, long-peduncled, erect.

racemosus, (hare-bell hyacinth. 2ℓ.) flowers thick, ovate, those at the top sessile: leaves lax, pendant, linear, carinate.

10—2. HYDRAN'GEA. 13. 58.

vulgaris, Ph. (1) (hydrangea. W. w. Au. ♄.) leaves oblong-ovate, obtuse at the base, acuminate, toothed, glabrous beneath: cymes naked. 5 f. *S.* P. H. M. Harper's Ferry.

nivea, Mx. (2) (w. Ju. ♄.) leaves heart-ovate, acuminate, serrate, snow-white down beneath: cymes radiate. 6—8 f. *S.* P.

Southern.

cordata, Ph. (3) (W. A. Ju. 2ℓ.) leaves broad-ovate, sub-cordate at the base: acuminate, coarsely toothed; glabrous beneath: cymes generally radiate.

quercifolia, Bart. (w. & r. Ju. ♄.) leaves oblong, sinuate-lobed, toothed, tomentose beneath: cymes radiate, thyrse-panicled. 4—5 f. Florida.

Hydrangea, HORTENSIA.

12—13. HYDRAS'TIS. 26. 61.

canadensis, (orange-root, turmeric root. W. w-r. Ap. 2ℓ.) stem with two opposite leaves above: leaves petioled, emarginate at the base, palmate, serrate, gashed: peduncle terminal, solitary, 1-flowered. Root yellow. *S.* P. Y. C. D.

Hutchinsia. The name of a friend to the botanist who gave it, latinized.

Hyacinthus. After Hyacinth, the favorite of Apollo, who was changed into this plant.

Hydrangea. Gr. *udōr*, water, and *aggeion*, a vessel, in allusion to the pitcher-like shape of the seed-vessel.

Hydrastis. From Gr. *udor*, water, in reference to the humid places wherein it grows.

(1) aborescens, W. (2) radiata, Wr. (3) vulgaris, Mx.

20—9. Hy'drocha'ris. 1. 22.

Southern.

spongiosa, Bosc. (1) (w. Au. 2ℓ.) monoecius: leaves floating round-cordate, reticulate beneath, with vesicles at the base. Stagnant water.

19—6. Hydrochlo'a. 4. 10.

fluitans, Mx. (2) (Ju. 2ℓ.) small: stem slender, branching: leaves linear, flat: spikes solitary, axillary, setaceous, about 4-flowered: glumes unawned. *S.*

5—2. Hy'drocoty'le. 45. 60.

umbellata, W. (water navel-wort. g-w. M. 2ℓ.) leaves peltate, crenate, at the base emarginate: umbels peduncled, many-flowered. *S.* P. B. C. F.

americana, (O. g-w. J. 2ℓ.) glabrous, tuberous: leaves sub-peltate, orbicular, doubly crenate: glomerules few-flowered, sessile. Var. *flexicaulis,* stems firmer and shorter, somewhat flexuous-angled. Var. *gracilis,* slender, filiform, not flexuous: leaves smaller. Plant low and prostrate. Flowers very small. *S.*

vulgaris, (3) (penny-wort. g w. J. 2ℓ.) leaves orbicular, peltate, slightly crenate: scape interruptedly spiked, few-flowered. *S.* P. C. Canada.

ranunculoides, (4) (J. 2ℓ.) leaves cordate, somewhat 5-lobed, crenate-dentate: umbels capitate, 8—10-flowered. *S.*

lineata, Mx. (5) (r-w. Ju. 2ℓ.) glabrous, creeping: leaves sessile: cuneate-linear, with transverse nerves: umbels peduncled. *S.* C. Peekskill.

Sub-genus Erigenia. Described at page 60.

bulbosa, N. (W. w, 2ℓ.) glabrous: leaves one or two, radical, petioled, gash-biternate: leafets of the involucels few, unequal: anthers exsert, dark purple. Root globe-tuberous. *S.* P. O. F.

repanda, P. (r-w Ju. 2ℓ.) leaves round- cordate, somewhat repand: petioles and nerves pilose: heads 3-flowered: peduncled.

Hydroglossum, Lygodium.

5—2. Hydro'lea. 29. 44.

Southern.

quadrivalvis, Wr. (6) (b. Ju. 2ℓ.) spinose pilose: leaves long-lanceo-

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Hydrocharis. Gr. *udor,* water, and *charis,* grace, as this little plant may be considered to be an ornament of still waters.

Hydrochloa. Gr. *udŏr,* water, and *chloĕ,* grass, it growing principally in water.

Hydrocotyle. Gr. *udŏr,* water, and *kotule,* a cavity, from the leaves being a little depressed in the centre, so as to hold a drop of water.

Hydrolea. From Gr. *udor,* water, and *elaia,* oil, because the leaves of this water plant are viscous as if they were smeared with old oil.

(1) cordifolia, N. (2) zizanea, Mx. (3) interrupta, M. (4) cymbalarifolia, M. (5) Crantzia, N. (6) caroliniana, Mx.

late; flowers nearly sessile, axillary? capsules glabrous. Charleston, S. C.

corymbosa, Macbride. (b. & y. Ju. 2ſ.) without spines: sub-glabrous: leaves lanceolate: calyx hispid: flowers terminal. 2 f.

spinosa, (W.) leaves lanceolate, hirsute: flowers terminal.

12—13. HYDROPEL'TIS. 26. 61.

purpurea, Mx. (1) (water-shield, water target. O. p. Au. 2ſ.) leaves peltate, oval, entire: peduncles solitary, 1-flowered. The leaves float on the surface of water, having long flexible petioles. Plant mostly covered with mucilage. *S.*

5—1. HYDROPHYL'LUM. 41. 43.

appendiculatum, Mx. (water-leaf. b. M. 2ſ.) very hirsute: radical leaves sub-pinnatifid, cauline ones lobe-angled: sinuses of the calyx appendaged: the fascicles of flowers sub-panicled: calyx very hispid. *S.* P. C.

virginicum, (burr-flower. W. b. J. 2ſ.) smoothish; leaves pinnate and pinnatifid; divisions lance-oval, gash-serrate: fascicles of the flowers conglomerate. The flowers have the appearance of a burr several weeks before they expand. 9—18 i. *S.* O. D. P. Windsor, Vt.

canadense, W. (rough burr-flower, W. p. & w. Ju. 2ſ.) hirsute; leaves lobe-angled: fascicles of the flowers crowded. Resembles the last in some respects; but the leaves are much larger. W. P. C. N. O. D.

hispidum, Riddell. whole plant hispid: leaves mostly radical.

macrophyllum, N. (W. w. 2ſ.) leaves pinnatifid, coarsely gash-toothed, divisions sub-rhomboid, oval, upper ones confluent: peduncles very long, and with the calyx hirsute: cyme crowded: divisions of the calyx shorter. K.

Southern.

linearе, Ph. (W. Ap. 2ſ.) pilose: leaves linear: racemes elongated.

17—1. HYMENOPAP'PUS. 49. 55.

Southern.

scabiosaeous, Mx. (w. Ap. 2ſ.) whitish-woolly: leaves deeply pinnatifid: divisions linear-oblong, sub-dentate: flowers corymbed. 2—3 f. Florida.

tenuifolius, Ph. (W. g-w. ♂.) whitish-woolly: stem corymb-branched; leaves sub-bipinnatifid: divisions narrow-linear, entire: flowers compoundly corymbed: pedicels crowded; calyx about 6-leaved, shorter than the florets; seeds very villose.

douglasii, H. ( ) tomentose, with white deciduous wool: branches elongated, sub-corymbed: leaves bipinnatifid, segments linear, sinu-

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Hydropeltis. Gr. *udŏr*, water, and *peltē*, a shield, from the floating peltate leaves.

Hydrophyllum. Gr. *udŏr*, water, and *phŭllon*, a leaf, from the leaves in the spring being filled with water.

Hymenopappus. Gr. *umĕn*, a membrane, and *pappus*, seed-down, from the tops of the seeds being covered with membranaceous egret.

(1) Brasenia peltata, Ph.

ate: flowers solitary; leafets of the calyx about 20, linear, pubescent shorter than the flower: corol filiform, apex pilose, chaffs of the pappus linear, scarcely longer. 1—3 f. R.

filifolius, H. ( ) tomentose with white deciduous wool: branches paniculate, scattered: leaves bipinnatifid, segments filiform, elongated, very entire: flowers solitary; leafets of the calyx about 12, elliptic, pubescent, somewhat shorter than the flower; tube of the corol campanulate above; pappus very short. 18—24 i.

21—1. HYMENOPHYL'LUM. 55. 5.

ciliatum, W. (2[.) frond pinnate: lower leafets larger: upper ones gradually smaller, pinnatifid; divisions linear, obtuse, 2-cleft, ciliate, hairy on the veins: rachis and stipe with ciliate wings. On trunks of trees. *S.*

5—1. HYOSCY'AMUS. 28. 38.

niger, (henbane. y. & p. Ju. ☉.) leaves clasping, sinuate: flowers veiny, sessile. Naturalized. T. B. D. F. N. Black Rock. Grows spontaneously at Detroit and Upper Canada, near Buffalo. Cooley.

Hyoscris, KRIGIA.

12—5. HYPE'RICUM. 20. 68.

1. *Flowers with 5 styles.*

kalmianum. W. (W. y. Ju. ♄.) fruticose, very branching: branchlets 4-cornered: leaves lance-linear: corymbs terminal, 3—7-flowered: divisions of the calyx lanceolate, obtusish: capsule as long as the calyx. 3—5 f. S. P. Niagara Falls. Lake Huron. N. Jersey.

pyramidatum, W. A. (W. y. Ju. 2[.) flowers pentagynous, terminal: styles shorter than the stamens: leafets of the calyx ovate, acute: stem somewhat 4-sided, branching: leaves sessile (sub-amplexicaulis,) oblong, acute, glabrous. This plant has generally been mistaken for the next species: especially when it happened to be found without branches. But the relative length of the styles and stamens is always decisive. 3—6 f. T.

ascyroides. W. Mx. (2[. or ♄.) flowers pentagynous, terminal; styles equalling the stamens in length: leafets of the calyx lance-ovate: stem 4-sided, simple, herbaceous (frutescent with 2-edged branches, Mx.) leaves sessile, oblong, acute, glabrous. Probably a Var. of the last, or not a North American plant. C. N. Y. T. P. W. Burlington, Vt.

2. *Flowers with 3 styles, or fewer.*

prolificum, W. (1) (W. y. J. ♄.) branches 2-edged: leaves lance-linear, obtusish: corymbs axillary and terminal, few-flowered: petals a little

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Hymenophyllum. Gr. *umēn*, a membrane, and *phūllon*, a leaf, the foliage being remarkable for its filmy texture.

Hyoscyamus. Gr. *us (uos)* a hog, and *kuamos*, a lot or measure; because it is good enough for hogs. Probably named by a Jew.

Hypericum. Obscure. Gr. *uperikon*, in Dioscorides.

(1) kalmianum, Du Roi.

longer than the stamens: leafets of the calyx lanceolate. 1—3 f. *S.* H. D.

galioides, Lk. (W. y. Ju ♄.) branches 4-sided: leaves linear, sessile, revolute at the margin, fascicled: panicles terminal, divaricate-dichotomous: petals and stamens equal, scarcely longer than the linear calyx: styles united, sub-exsert. 2 f. *S.*

perforatum, (1) (O. y. J. 2ſ.) erect, branching: stem 2-edged: leaves oblong, obtuse, transparently punctate: panicle terminal brachiate, leafy: petals longer than the acute, lanceolate calyx. This is the common St. John's wort, so troublesome to farmers. 1—3 f. *S.*

corymbosum, W. (2) (W. y. Ju. 2ſ.) erect, glabrous, darkly-punctate: stem terete, branching: leaves clasping, oblong-oval, obtuse: corymbs terminal, brachiate, dense-flowered: divisions of the calyx lanceolate, acute. 18—24 i. *S.* B. D. F. T. P. N. V.

parviflorum, W. (3) (low centaury. O. y. Ju. 2ſ.) erect, small, glabrous; dichotomous ramose, somewhat 4-sided: leaves ovate-oblong, subcordate, obtuse, nerved, sessile; panicles terminal, dichotomous-corymbed: petals shorter than the lanceolate calyx. 6—12 i. *S.* Florida.

canadense, (W. y. Ju. ☉.) erect, small, few-flowered: stem 4-sided, dichotomous above: leaves sessile, linear, slender at the base: the branches of the panicle opposite, the branchlets dichotomous: capsule long, conic, colored, red. 9—18 i. *S.* P. Y. W. N. B. C. D.

adpressum, B. (y. Ju. 2ſ.) stem erect, 2-edged immediately below each pair of leaves, and sub-cylindric near the root; leaves opposite, closely sessile, lanceolate-obtuse, transparently punctate, with very fine dots: those of the branches sub-linear, crowded; those of the cymes small, acute, crowded: flowers terminal and axillary, with obtuse, entire petals: style 1; capsule sub-conic. P.

petiolatum, Wr. (4) (y. Ju. 2ſ.) leaves petioled, oblong-oval, round-obtuse: flowers opposite, axillary, sub-sessile, sub-ternate: stamens adnate as far as the middle: capsule oblong. *S.* P.

angulosum, Mx. (5) (y-r. Ju. 2ſ.) erect: stem 4-sided: leaves oblong, acute, closely sessile: panicle terminal, dichotomous: branches divaricate, with distant alternate flowers: calyx sub-campanulate; divisions lanceolate, acute, keeled below, almost as long as the corol: petals with a single lateral tooth. 2 f. N.

virginicum, (6) (W. p. Au. 2ſ.) flowers with 9 or 12 stamens, distinctly arranged in three parcels, and separated by nectaries: leaves oval, obtuse, clasping: stem compressed. Var. *emarginata*, leaves heart-ovate, emarginate: peduncles axillary, elongated. 1—2 f. *S.* T. N.

micranthum, Choisy, (W.) stem terete, punctate, becoming purple: branchlets straight: leaves oblong, obtuse, black-punctate: flowers crowded, terminal; calyx small, obtuse: corol and anthers black-punctate. *S.* Canada. D.

ellipticum, Hk (W.) stem erect, herbaceous, sub-ramose above, acutely 4-angled: leaves oval, very obtuse, pellucid and fuscous,

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(1) virginicum, Wr. (2) punctatum, Lk. maculatum, Wr. (3) quinquenervium, Wr. mutilum, W. (4) axillare, Mx. Elodea petiolata, Ph. (5) denticulatum, Wr. (6) campanulatum, Wr. Elodea campanulata, Ph.

punctate: corymbs small, terminal: divisions of the calyx oblong, spreading, very unequal, nerved, foliaceous: styles 2 or 3, compactly united. Canada. N. W. Lakes.

cistifolium, (2[.) stem angled: leaves ovate-oblong, black-punctate beneath, acutish, somewhat clasping, margin revolute: flowers in dichotomous corymbs: calyx ovate, entire: styles coadnate. N.

frondosum, Mx. (5) (W. y. Ju. ♄.) branches two-edged: leaves oval-oblong, obtuse, mucronate, narrow at the base: flowers terminal, sub-solitary: divisions of the calyx oblong, acute, equalling the stamens and petals; styles united, as long as the stamens. Canada.

Southern.

Flowers with 3 styles.

aspathaloides, W. (1) (y. ♄.) branches sub-terete, dichotomous: leaves fascicled, linear, acute, striate: flowers solitary, axillary, sub-sessile: styles united.

fasciculatum, Mx. (2) (y. Ju. ♄.) branches 4-angled: leaves crowded, somewhat in verticillate clusters, filiform, linear, obtuse, sessile: peduncles axillary, near the summit of the branches, 1—3-flowered: calyx filiform: styles united. Does this really differ from the galioides? Elliott. 1—2 f.

rosmarinifolium, (3) (W. y. Ju. ♄.) stem terete, somewhat angled: leaves lance-linear, acute, tapering at the base, somewhat clustered: panicle long; peduncles near the summit of the branches, axillary, 3-flowered: styles united. 2—4 f. Charleston, S. C.

ambiguum, E. (J. 2[.) branches compressed, leaves lance-linear, acute, mucronate: flowers axillary and terminal: leaves of the calyx lance-linear, unequal, as long as the corol: petals toothed near the summit; styles 3, united. 2—4 f.

amoenum, Ph. (y. Ju. ♄.(diffuse: branches compressed: leaves oval, glaucous beneath: flowers axillary, sub-solitary: leaves of the calyx ovate, acute: petals deflected, longer than the stamens. 2 f.

fastigiatum, E. (J. ♄.) branches somewhat compressed: leaves narrow lanceolate, very acute: corymbs terminal, many flowered, fastigiate; styles united. 3 f.

nudiflorum, Mx. (y. Au. ♄.) branches winged: leaves oblong-ovate, obtuse, sessile: panicle terminal, naked, compound: corol larger than the calyx: styles united.

glaucum, (4) (y. Ju. ♄.) branches terete: leaves oblong, cordate, clasping, obtusish, smooth, glaucous, coriaceous: panicle leafy divaricate-dichotomous; divisions of the calyx ovate, acute, longer than the petals: stamens and petals about equal: styles united.

densiflorum, Ph. (6) (W. A. y. Ju. ♄.) very branching: branchlets subterete: leaves lance-linear, obtusish, narrowed at the base: panicle terminal, compoundly dichotomous, somewhat leafy, dense-flowered: flowers solitary pedicelled: divisions of the calyx very short, ovate, caducous: stamens shorter than the petals and united styles. 2 f.

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(1) fascioulatum, Lk. (2) tenuifolium, Ph. (3) fasciculatum, Ph. W. (4) myrtifolium, Lk. (5) elatum, A. (6) rosmarinifolium, Lk.

pilosum, Wr. (Ju.) pilose: stem virgate, simple: leaves expanding, ovate, acute, tapering at the base: panicle few-flowered.

simplex, Mx. (y. Au. ☺.) erect, woolly; stem simple, terete, virgate: leaves lance-ovate, closely sessile, appressed: panicle, terminal, few-flowered. 1—2 f.

acutifolium, E. (y.) stem herbaceous? branching, glabrous: leaves narrow-lanceolate, acute: panicle many-flowered: capsules scarcely longer than the calyx.

tubulosum, Wr. (1) ( ) leaves sessile: corol tubular: stamens united above the middle.

triplinerve, Vent. (W. y. Au. 2f.) erect, somewhat branching: stem somewhat two edged: leaves linear, spreading, 3-nerved: flowers raceme-panicled: corol unequal: acute calyx and petals glandular-serrate.

dolabriforme, Vent. (W. y. Ju. 2f.) erect, branching: stem two edged: leaves lance-linear, spreading, obtuse: corymb terminal, dichotomous: calyx lanceolate, unequal: petals axe-form.

sphaerocarpum, Mx. (W. y. 2f.) erect, very glabrous; leaves oblong: panicle naked, dichotomous; forks all one-flowered: styles united: capsule globose.

procumbens, Mx. (W. y.) procumbent, very glabrous; branches two-edged, few-flowered at the summit: leaves-linear, without nerves, spreading: divisions of the calyx lance-oblong, acute: stamens shorter than the corol; styles united.

virgatum, (2f.) stem straight quadrangular: leaves lance-ovate, slightly clasping, black-punctate, margin revolute: panicle few-flowered, dichotomous: calyx lanceolate, entire: styles 2 or 3: stigma capitate.

hedyotifolium, (2f.) stem straight, quadrangular: leaves sessile decussate, lanceolate, sub-acute, close-pressed, black-punctate beneath, not pellucid: calyx lance-linear, black-punctate; styles 3 or 4; stigma capitate.

Flowers with 5 *styles.*

rostratum, (2f.) stem woody, 2-edged; leaves sessile, ovate, acute at both ends, at the margin revolute, punctate; corymbs axillary and terminal: calyx 2-bracted: germ pedicelled, with 5 styles. Louisiana.

Hypericum, SAROTHRA.

21—1. HYPOPEL'TIS. 55. 5.

obtusa, W. (2) (W. Ju. 2f.) frond doubly-pinnate, the lesser leafets oblong, obtuse, the upper ones having united bases; tooth crenate: rachis pubescent above. 4—5 i. Rocks. T. O. H.

Hypopeltis. Gr. *upo*, under, and *pelte*, a shield.

(1) Elodea, Ph. &c.

(2) Aspidium obtusum, 5th ed.

10—1. HYPOPI'THYS, N. (1) 18. 51.

lanuginosa, (false beech-drops. W. y-w. Ju. 2ſ.) scape spike-flowered: whole plant, including the flower, woolly, except the base of the stem. Grows on roots of trees, &c. whole plant yellowish-white. 3—6 i. *S.* B. C. T. F. P. V. Niagara Falls.

europea, N. (2) (yellow beech drops. y. J. 2ſ.) scape spike-flowered: flowers and scales on the stem glabrous outside: lateral flowers octandrous. P. Canada.

6—1. HYPOX'IS. 10. 17.

erecta, W. (3) (star-grass. O. y. Ju. 2ſ.) pilose: scape 2 or 3-flowered: leaves lance-linear: divisions of the corol lance-oblong. Var. *graminea*, has longer and narrower leaves; more flowers, longer lance-linear divisions to the corol—and altogether a more grassy appearance. *S.*

Southern.

filifolia, E. (Ap.) leaves filiform, somewhat angled, hairy: scape generally 2-flowered.

juncea, S. (J. 2ſ.) pilose: leaves filiform, channelled, very entire: scapes one-flowered.

13—1. HYP'TIS. 42. 42.

Southern.

radiata, (w. Au. 2ſ.) heads of flowers opposite: peduncles as long as the internodes: bracts lanceolate, longer than the fruit-bearing calyx: leaves oblong, serrate. 3—4 f.

capitata, W. (w. Ju. 2ſ.) heads of flowers opposite: peduncles as long as the internodes: bracts lanceolate, shorter than the fruit-bearing calyx: leaves oblong, attenuate at each end, unequally serrate. It is doubtful whether this species has been found in this country.

spicata, Poit. ( ) spikes terminal; flowers in little heads, pedicelled, crowded; leaves cordate-ovate, doubly serrate. Florida.

13—1. HYSSO'PUS. 42. 42.

nepetoides, W. (4) (giant hyssop. W. g-y. Ju. 2ſ.) stem acutely 4-angled, sub-alate: leaves ovate, acutely dentate; petioles smooth. 4—8 f. *S.* T. Y. P. W. D. N. C. H. F. O. U. Canada.

Hypopithys. Gr. *upo*, under, and *pitus*, the pine, from its common place of growth. This seems to have been the author's opinion; but it is not correct. I have seen hundreds in beech, hemlock, and oak woods.

Hypoxis. Gr. *upo*, under, and *oxûs*, sharp, from the sharp, pointed capsules.

Hyptis. Gr. *uptios*, resupinate, referring to the corol,

Hyssopus. Gr, *ussopus*, a word from the Hebrew *ezob*.

(1) Monotropa, L. (2) hypopithys, L. (3) caroliniensis, Mx. (4) Lophanthus.

scrophulariifolius, W. (1) (W. Ju. 2[.) stem obtusely 4-angled: leaves heart-ovate, obtusely dentate; petioles ciliate-pubescent. 3—5 f. Dr. Darlington, and Dr. M. Stevenson, have shewn that these are perfectly distinct species. P. W. C. D.

fasciculum, Ph. (2) (W. b. Ju, ⊙.) erect pubescent: leaves heart-ovate, toothed, glabrous above, whitish-tomentose beneath: whorls about 6-flowered.

Exotic.

officinalis, (hyssop. Ju. 2[.) flowers whorled: racemes one-way: intermediate divisions of the corol 2-lobed, entire: leaves lance-linear.

I.

14—1. IBE'RIS. 39. 63.

Exotic

umbellata, (candy tuft. w. J. ⊙.) leaves lanceolate, acuminate; lower ones serrate, upper ones entire.

4—1. IC'TODES. (3) 2. 7.

fœtida, Mx. (skunk cabbage, fetid hellebore. O. p. A. 2[.) stemless leaves radical, heart-ovate, very large: spadix supporting the flowers in a sub-globose head. Odor resembles that of the skunk. *S.*

4—4. I'LEX. 43. 95.

opaca, A. (evergreen holly. W. g.w. M. 2[.) leaves evergreen ovate, acute, spinose glabrous, flat: flowers scattered at the base of the shoots of the preceding year. A middle sized tree. *S.* Y. C. P. B. Canada. Charleston, S. C. Florida.

Southern.

laxiflora, Lk. (J. ♄.) leaves ovate, sinuate-toothed, spinose, shining, flat: peduncles super-axillary, in the young branches aggregate, lax-ramose.

cassine, A. (J. ♄.) leaves lance-ovate, sharply serrate, flat, glabrous on the mid-rib beneath: lateral peduncles corymb branched. 8—12 f. Charleston, S. C.

dako'on, Wr. (w. M. ♄.) leaves lance-oblong, nearly entire, reflexed at the margin, villose on the mid-rib beneath: peduncles lateral and terminal, corymb panicled. 4—12 f.

laurifolia, N. ( ) leaves large, elliptic, obtuish, very entire, sempervivent: pedicels elongated, sub-3-flowered. Florida.

myrtifolia, Wr. (4) (W. J. ♄.) leaves lance linear, mucronate, rigid, very glabrous: fertile flowers solitary. 6—10 f.

Iberis. From the country Iberia, now Spain.

Ictodes. From Gr. *iktis*, a kind of weasel, a ferret: a skunk: in allusion to its odor.

Ilex. Lat. scarlet oak. Boerh. says it is from Herew *elon*, which signifies oak.

(1) Lopanthus. (2) aristatus, N. Stachys, Ph. (3) Pothos, L. Symplocarpus, Sy. Dracontium, E. in another part of his work. (4) angustifolia, Ph. rosmarinifolia, Lk. M.

ligustrina, W. (1) (J. ♄) leaves lance-linear, wedge-form at the base, generally entire: fertile florets solitary. 6—10 f.

vomitō'ria, A. (2) (south-sea tea. O. M. ♄.) leaves oval, obtuse at each end, crenate-serrate, glabrous: umbels lateral sub-sessile. 6—15 f.

prinoides, A. (M. ♄.) leaves deciduous, lance-oval, acute at each end, serrate: peduncles one-flowered; fertile ones solitary. 6—8 f.

Ilex, MYGINDA, NEMOPANTHES.

Illecebrum, ACHYRANTHES.

12—13. ILLI'CIUM. 12. 75.

Southern.

parviflorum, MX. (y. M. ♄.) leaves alternate, lanceolate, entire, obtuse, perennial: petals and leaves of the calyx round, concave. 6—10 f.

floridanum, W. (W. p. J. ♄,) leaves acuminate: petals numerous, oblong and linear. Florida.

5—1. IMPA'TIENS. 24. 73.

pallida, N. (3) (jewel-weed, touch-me-not. O. y. Ju. ☉.) peduncles solitary, 2 & 4-flowered: nectary obtusely conic, dilated, shorter than the petals: spur recurved, very short: flowers sparingly punctate: leaves rhomb-ovate, mucronate-toothed. 2—4 f. *S.* Not so common as the next.

fulva, N. (4) (speckled jewels. O. y. & r. Ju. ☉.) peduncles solitary, 2—4-flowered: nectary acutely conic, longer than the petals: spur resupinate, emarginate, nearly as long as the galea: flowers with crowded spots: leaves rhomb-ovate, mucronate, toothed. 2—4 f. *S.*

Exotic.

balsamina, (balsam weed. r. & w. Au. ☉.) peduncles aggregate, 1-flowered: leaves lanceolate, upper ones alternate: nectary shorter than the flowers. 1—3 f.

Imperatoria, ANGELICA.

16—10. IN'DIGOFE'RA. 32. 93.

Exotic.

tinctoria, (indigo. ♄.) leaves pinnate: oblong, glabrous, in four pairs; racemes shorter than the leaves: legume terete, somewhat arched. From the East Indies.

Southern.

caroliniana, Wr. (b. Au. ♃.) leaves pinnate; leafets oval and obovate:

Illicium. Lat. *illicio*, to attract, on account of its aromatic fragrance.

Impatiens. Lat. *in*, not, and *patior*, to suffer, from the elasticity of the capsule, which will open as soon as touched.

Indigofera. Meaning: bearing indigo; this being the plant from which indigo is obtained.

(1 angustifolia, M. Var. ligustrifolia, Ph. (2) cassine, Wr. (3) aurea, M. nolitangere, Ph. (4) maculata, M. biflora, Ph.

spikes longer than the leaves; legumes 2-seeded: reticulate-veined. 2—7 f.

17—2. I'NULA. 49. 55.

he'lenium, (elecampane. W. y. Au. 2ℓ:) leaves clasping, ovate, rugose, tomentose beneath: scales of the calyx ovate. Naturalized. 3—5 f. A. T. C. O. V.

Inula, CHRYSOPSIS.

5—1. IONI'DIUM. 29. 80.

concolor, Forst. (1) (green violet. W. w.g. M. 2ℓ.) straight, erect; leaves broad-lanceolate, sub-entire: stipules subulate entire: peduncles short: petals connivent, emarginate: spur 0. 20 i. S. O. M. K.

5—1. IPOME'A. 29. 44.

lacuno'sa, Mx. (w. & p. J. ☉.) glabrous: leaves cordate, acuminate; scrobiculate, angled at the base: peduncles short, about one-flowered; calyx hairy: corol tubular, short: capsules hairy. S. P.

nil, Mx. (2) (morning glory. W. b. Ju. ☉.) hirsute: leaves cordate, 3-lobed, pedunoles short, 1—3-flowered: calyx very villose, long acuminate. S. P. Harper's Ferry.

quamo'clit, W. (jasmine bindweed. r. w. Au. ☉.) leaves pinnatifid, linear: flowers sub-solitary; corol tubular. P.

Southern.

coccinea, Wr. (y-r. Ju. ☉.) pubescent: leaves cordate, acuminate, sub-angled: peduncles about 5-flowered: calyx awned: corol tubular: limb sub-entire.

dissecta, Mx. (Ju. 2ℓ. ♄?) stem, petioles, and peduncles very pilose: leaves glabrous, 7-lobed; divisions sinuate: peduncles 1-flowered: divisions of the calyx oval: corol bell-form.

trichocarpa, Mx. (3) (p. Ju. ☉.) leaves entire, cordate, or 3-lobed, villose: calyx ciliate: capsules hirsute: peduncles about 2-flowered.

bona'nox, W. (w. Ju. ☉.) very glabrous: leaves cordate, entire or angled: peduncle 1 to 3-flowered: calyx awned: corol undivided; tube long.

tamnifolia, W. (b. Ju. ☉.) hirsute: leaves cordate, acuminate: flowers in aggregate heads, involucred: bracts linear: corol short tubular; limb spreading: capsule glabrous.

ciliosa, Mx. (W.) glabrous: leaves cordate, sub-ciliate at the margin: peduncles long, 1-flowered: calyx without bracts; divisions broad-oval, obtuse: corol tubular bell-form.

orbicularis, E. (p. Ju.) prostrate: leaves round, emarginate, veined, glabrous: peduncles about 3-flowered: tube of the corol short.

Inula. Gr. *elenion*, fabled to have sprung from the tears of Helen.

Ionidium. Gr. *ion*, violet, and *eidos*, like, from its resemblance to the violet.

Ipomea. Gr. *ips*, vine or twining, and *omoios*, like, from its resemblance in appearance and habit. Taken by Linnæus from Convolvulus.

(1) Viola, Forst. Ph. &c. (2) Convolvulus, W. (3) carolina, Ph. W. & Mx.

carolina. Cates. (b.) leaves digitate; leafets petioled: peduncles 1-flowered.

Ipomœa, CONVOLVULUS.

20—5. IRE'SINE. 12. 30.

Southern.

celosioides, W. (W. S. ☉.) leaves punctate, scabrous; lower ones oblong, acuminate; upper ones lance-ovate: panicle branching, crowded: stem furrowed. 3—4 f.

3—1. I'RIS. 6. 18.

versic'olor. (1) (snake lily, blue flag. O. b. J. 2ſ) leaves ensiform: stem acute on one side: capsules oblong, 3-sided with obtuse angles. Var. *sulcata*, (2) inner petals longer than the stigmas: germ with sulcate angles and concave sides: capsule oblong, ventricose; angles somewhat furrowed. Var. *communis*, (3) stem erect, flexuous: leaves narrow ensiform: inner petals a little shorter than the stigmas: angles of the germ not grooved when young, sides deep-concave: capsule cylindric-oblong. 2—3 f. *S.*

prismatica, Ph. (4) (boston iris. b. y. J. 2ſ.) flowers beardless: leaves linear: stem round, many-flowered: germs triangular, twice grooved on the sides. 1—2 f. C. Y. B. N.

lacustris, N. (W. b. 2ſ.) beardless: leaves short ensiform: scape much shorter than the leaf, 1-flowered: petals sub-equal? attenuated on the tube: capsule turbinate, 3-sided, margined: seed roundish, smooth: r t t berous. Great lakes.

missouriensis, N. (W. y. b. 2ſ.) beardless; stem terete, higher than the leaves, somewhat 3-flowered: leaves narrow-ensiform: capsules oblong-linear: flowers bicolored. 12—16 i. R.

Exotic.

sambucina, (elder-scented iris, garden iris. b. p. w. M. 2ſ) stem many-flowered, higher than the leaves: divisions of the corol emarginate; outer ones flat: leaves inflex-falcate at the apex: spathe membranaceous at the apex; lower flowers peduncled: stigmas with acute serrate divisions. 18—24 i. Cultivated in gardens, common. Called *plicata* in 5th ed., now corrected by Prof. Tully.

pumila, (dwarf-flower-de-luce. b. M. 2ſ.) bearded: scape 1-flowered: leaves ensiform, glabrous: tube of the corol exsert: petals oblong, obtuse. 6—10 i.

ochroleu'ca, (yellow iris. y. M.) beardless: leaves ensiform, depressed, striate: scape sub-terete: germ 6-cornered.

Iresine. Gr. *eiros*, wool, because this plant when in fruit bears a sort of woolliness.

Iris. Gr. *iris*, the rainbow, from the varied and somewhat concentric hues of the flower.

(1) virginica, Bw. 1st ed. and probably of L. (2) versicolor, W. virginica, Ph. (3) versicolor, Ph. (4) gracilis, Bw. 1st ed. virginica, T.

Southern.

cristata, Mx. (W. b. & y. Ap. 2ℓ.) bearded: beard crested: scape generally 1-flowered, as long as the leaves: germs 3-angled: petals about eqal. 2—4 i.

tripe'tala, Wr. (1) (b. M. 2ℓ.) beardless: stem terete, longer than the leaves: leaves ensiform: rudiments of the inner petals 3-toothed; middle tooth acuminate: capsule 3-angled. 2 f.

cuprea, Ph. (O. r-y. Ju. 2ℓ.) beardless: stem terete, flexuous, equalling the leaves: leaves broad-ensiform: stigmas linear, short: petals all reflexed, emarginate, obovate; inner ones shortest: capsules large, 6-angled. 3 f.

verna, W. (W. A. b. M. 2ℓ.) beardless, stemless, one-flowered: leaves very long, grass-like, glaucous: tube very long: petals nearly equal: capsules roundish, sessile. On the earth.

sibirica, W. (W. b. Ju. 2ℓ.) beardless: stem hollow, terete, higher than the leaves, somewhat 3-flowered: leaves linear: capsules short: 3-angled, obtuse at each end.

13—1. ISAN'THUS. 42. 42.

caruleus, Mx. (2) (blue gentian, false pennyroyal. O. b. Ju. 2ℓ.) viscid-hairy: leaves lance-oval, acute at both ends, 3-nerved: peduncles 1 or 2-flowered.

14—1. ISA'TIS. 39. 63.

Exotic.

tinctoria, (woad. J. ♂.) radical leaves crenate; cauline ones sagittate, oblong.

4—1. ISNAR'DIA. (3) 17. 88.

palustris, W. (water purslane. O. g. J. 2ℓ.) prostrate, creeping: leaves opposite, lanceolate, tapering at the base: capsule oblong, sub-angled. Var. *americana*, leaves acuminate, large; flowers sessile, apetalous.

ascendens, Hall. stem obliquely ascending, rigid, (never creeping or prostrate) somewhat angular, reddish. Grows with the *palustris*, but is generally smaller and quite different in appearance. Albany.

Southern.

alata, E. (Ju.) glabrous: leaves wedge lanceolate, decurrent, stem winged: capsule cubic, sessile. 2 f.

microcarpa, Mx. (4) (Au. ♁?) stem decumbent, slightly winged: leaves alternate, spatulate-obovate: flowers axillary, sessile. 1 f

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Isanthus. Gr. *isos*, equal, and *anthos*, flower; because this plant, unlike the rest of the class, has a regular corol.

Isatis. Gr. and Lat. *isatis;* from Gr. *isaz*ō, to render equal. The plant was believed to destroy by its simple application all roughness and inequalities of the skin.

Isnardia. In honor of Danti d' Isnard, a French botanist.

(1) tridentata, Ph. (2) Trichostema brachiata, L. (3) Ludwigia, E. Ph. &c. (4) glandulosa, Ph?

sphaerocarpa, E. (Au. 2ℓ.) stem erect, branching: leaves lance-linear: capsules small, sessile, globose, pubescent. 2 f.

cylindrica, E. (Au. 2ℓ.) stem erect, branching, slightly angled: leaves lanceolate: capsules cylindrical. 3 f.

lanceolata, E. (Ju 2ℓ.) stem virgate: leaves narrow, lanceolate, glabrous, sub-decurrent: capsules cubic, sessile winged.

21—1. ISOE'TES. 55. 5.

lacustris, W. (quill-wort. 2ℓ.) frond dilated and imbricate at the base, narrow and subulate above, flat: root fibrous. From 2 to 12 inches high: color green: growing immersed, or at the margin of ponds. Resembles a zoophyte. P.

Isalensis, SCIRPUS.

Isopyrum, ENEMEON.

5—1. I'TEA. 18. 84.

virginica, W. (itea. W. w. J. ♄.) leaves alternate, lanceolate, acuminate, serrulate, pubescent on the veins. 3—6 f. *S.* New Orleans Florida.

17—4. I'VA. 49. 55.

frutescens, (high-water shrub. L. g. Au. ♄.) leaves lanceolate, punctate-scabrous, deeply serrate: glomerules of florets globose, depressed. Somewhat shrubby. 3—4 f. *S.* B. C. F.

axillaris, Ph. (W. y-g. M. 2ℓ.) herbaceous, sub-pilose, leaves generally opposite, lance-linear, entire: flowers axillary, solitary, nodding: calyx nearly simple; leafets ovate. 6—8 i. R.

Southern.

imbricata, Wr. (L. Au. ♄.) shrubby, glabrous: leaves lance-linear, wedge-form, entire, glabrous: calyx imbricate.

xanthifolia, N. (W. Au. ☉.) leaves opposite, petioled, heart-ovate, acuminate, doubly serrate, soft-villous, hoary beneath: spikes naked, panicled. 5—6 f.

ciliata, Ph. (W. Ju. ☉.) herbaceous: leaves lance ovate, sub-serrate: spike somewhat crowded: bracts lanceolate, acuminate: bracts and petioles long-ciliate. 2 f.

3—1. IX'IA. 6. 18.

Exotic.

chinensis, (blackberry lily. y. r. J. 2ℓ.) corol about 6-petalled: stem flexuose: leaves ensiform.

Southern.

coelestina, B. (O. b. M. 2ℓ.) leaves linear-subulate, many times shorter than the 1-flowered scape.

Isoetes. Gr. *isos*, equal. and *etos*, the year, from its being evergreen.

Itea. Gr. *itea*, a willow, from *ieai*, to go, on account of its rapidity of growth.

Iva. A name of barbarous origin, or an abbreviation of Abiga, (see Ajuga,) applied by Linneus to those plants, because their smell resembles that of the ancient Iva.

Ixia. Derived from Gr. *ichō*, to fix, alluding to the viscid roots of some species.

J.

2—1. JASMI'NUM. 44. 34.

Exotic.

fruticans, (jasmine, y. ♄.) leaves alternate, ternate, simple: leafets ob-ovate, wedge-form, obtuse: branches angled.
officinale, (jasmine. w. ♄.) leaves pinnate, opposite: leafets acuminate. Florida.

19—15. JA'TROPHA. 38. 96.

Southern.

stimulosa, Mx. (tread-softly. w. Ju. 2ℓ.) hispid with stimulating prickles: leaves palmate-lobed: lobes obtusish, sub-sinuate-toothed: cymes short-peduncled. 6—18 i. Florida.

8—1. JEFFERSO'NIA. 27. 62.

diphylla, B. (1) (twin-leaf. W. w. M. 2ℓ.) stemless: peduncles naked, 1-flowered: leaves in pairs. P. O. K.
lobata, N. (W. w.) leaves binate, gash-lobed: lobes about 5, irregular, acute: petals oblong. Georgia. Tennessee.

19—12. JU'GLANS. 50. 94.

nigra, (black walnut. O. M. ♄.) leafets numerous, lance-ovate, serrate, sub-cordate, narrowed above: petioles and under side of the leaves sub-pubescent; fruit globose, with scabrous punctures: not wrinkled.
cinerea, (butternut. O. M. ♄.) leafets numerous, lanceolate, serrate, rounded at the base, soft-pubescent beneath: petioles villose: fruit oblong-ovate, viscid, long-peduncled: not roughly sculptured. The bark is a cathartic.

Exotic.

regia, (madeira nut. M. ♄.) leafets about 9, oval, glabrous, sub-serrate, sub-equal: fruit globose. Var. *fraxinifolia*, has 9 or 10 leafets, oblong, serrate, smooth: lateral lower one adnate on the common petiole. It is said that this variety is indigenous to North America.

Juglans, CARYA.

6—1. JUN'CUS. 5. 13.

1. *Scapes naked; flowers lateral.*

effusus, (soft rush, bulrush, W. J. 2ℓ.) scape minutely striate; (soft:)

Jasminum. From the Arabian jasmin *(ysman.)*
Jatropha. Gr. *iatron*, a remedy, and *phago*, to eat, the fruit being used both for food and physic.
Jeffersonia. In honor of Thomas Jefferson, who was a patron of natural science.
Juglans. Contracted from Jovisglans, the acorn of Jupiter, from its goodness.
Juncus. Lat. *jungo*, to join, from its use in tying or binding things together.
(1) Podophyllum, L.

panicle loose, very branching: spreading: leafets of the calyx lanceolate, acuminate, rather longer than the obovate, obtuse capsule. 2—3 f. *S.* T. B. C. O. F. P. Y.

setaceus, Rostk, (W. 2f.) scape filiform, striate: umbel lateral, compound, few-flowered: peduncles many-flowered: leafets of the calyx subulate. 2 f. *S.* C. P. N.

acutus, (O. 2f.) scape naked, terete: panicle lateral: involucre 2-leaved, spinous: capsule roundish, mucronate, twice as long as the calyx. 2—3 f. *S.* Y. C.

2. *Leaves all radical; flowers terminal.*

squarrosus, (2f.) leaves setaceous, (rigid) grooved: panicle terminal, elongated, compound: capsules elliptical.

tenuis, W. (W. Ju. 2f.) stem erect, filiform, somewhat dichotomous at the summit; nearly terete: leaves setaceous, channelled: flowers solitary, approximate, sub-sessile: calyx longer than the obtuse capsule. 1 f. *S.* T. B. C. O. P. F. N.

nodosus, (W. Ju. 2f.) stem somewhat leafy: leaves nodose-articulate; heads about 2, globose: one of them lateral and peduncled: the other sessile: leafets of the calyx mucronate, shorter than the acuminate capsule. 8—10 i. *S.* C. N. D.

3. *Stems leafy.*

(Leaves nearly plane, grooved above.)

marginatus, Rostk. (1) (W. Au. 2f.) leaves flat, smooth: corymb terminal, simple, proliferous: heads 5—10-flowered; flowers triandrous: leafets of the calyx about as long as the obtuse capsule; outer ones and bracts somewhat awned. Var. *odoratus*, stem tall, sub-terete, leafy; panicle very branching, proliferous. 12—18 i. *S.* Y. P. H. M.

trifidus, (A. Ju. 2f.) sheaths ciliate: those at the base of the stem leafless: bracts leafy, very long, grooved: heads about 3-flowered, terminal; stem 1-leaved. 6 i. White Mts.

bulbosus, (2) (black grass. Au. 2f.) stem simple, leafy, compressed: leaves linear-setaceous, channelled: panicle terminal, compound, subcymose, shorter than the involucre: leafets of the calyx incurved, obtuse or acute, generally shorter than the ovate, sub-globose capsule. Y. B. C. P.

bufonius, (toad rush. W. Ju. ☺.) stem dichotomous above, panicled: leaves filiform-setaceous, channelled: flowers sub-solitary, sessile, 1-sided: leaves of the calyx very acuminate, much longer than the oval-ovate capsule. 3—6 i. *S.* P. H. B. F. N. Black Rock.

(Leaves rounded or sub-compressed, nodose-articulate.)

acuminatus, Mx. (W. Au. 2f.) stem leafy, erect: leaves terete, nodose-articulate: panicle terminal, compound: heads 3—6-flowered, peduncled and sessile: leafets of the calyx lance-linear, somewhat awned, shorter than the acute capsule. viviparous? 18 i. *S.* N. Y. P. C. H. Owego.

(1) aristulatus, Mx. E. (2) dichotomus, E.

polycephalus, Mx. (1) (W. Au. 2ℓ.) stem leafy, erect: leaves compressed, nodose-articulate: panicle decompound: heads globose, many-flowered; flowers triandrous: leafets of the calyx somewhat awned, rather shorter than the triangular, acute capsule. 18—24 i. S. N. H. B. T. C. M. D.

subverticillatus, W? (2) (2ℓ.) cauline leaves subulate, nodose-articulate: panicle corymbed: heads about 5-flowered, fasciculate-whorled: leafets of the calyx striate, as long as the obtuse capsule. 18 i. Canada.

militaris, Bw. ( ) leaf one, jointed, cylindrical, longer than the stem: panicle terminal, proliferous; heads about 5-flowered: leafets of the calyx acute. 2—3 f. B.

conglomeratus, S. (Ju. 2ℓ.) stem naked, straight: panicle lateral, conglobate: capsule retuse: flowers triandrous. Y.

Southern.

repens, Mx. (J. 2ℓ.) creeping: stem geniculate, branching; leaves linear, flat: fascicles lateral and terminal; flowers triandrous: leaves of the calyx subulate, carinate, very acute. 6—10 i.

biflorus, E. (J. 2ℓ.) stem terete: leaves linear, flat: panicle decompound, long: fascicles 2-flowered. 3 f.

20—15. JUNI'PERUS. 51. 100.

communis, W. (juniper. W. M. ♄.) leaves in threes, spreading, mucronate, longer than the berry. Var. *erecta*, branches erect. Var. *depressa*, (3) branches prostrate or horizontal. P. T. N. Canada.

virginiana, Wm. (red cedar. O. M. ♄.) leaves in threes, aduate at their bases: in their young state they are imbricate, older they become spreading. 15—50 f.

sabina, W. (savin. W. M. ♄.) leaves opposite, obtuse, glandular in the middle, imbricate 4-ways; the young tender ones opposite, acute. Grows near Lake Superior, Pitcher. Var. *procumbens*, 6 inches high. Rocky Mountains, Ph. B. Canada.

Southern.

excelsa, W. (M. ♄.) leaves opposite, obtusish, glandular in the middle, imbricate 4-ways; the young tender ones acute, in threes, spreading: stem arboreus. A middle size tree. Perhaps a variety of the last.

barbadensis, W. (♄.) leaves all imbricate four ways; younger ones ovate; older ones acute.

10—1. JUSSIÆ'A. 17. 88.

Southern.

grandiflora, Mx. (y. Ju. 2ℓ.) creeping: stem erect and ascending: leaves

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Juniperus. Lat. *junenis*, young, and *pario*, to bring forth, because it produces young fruit while the old ones are ripening; or from the Celtic word *jeneprus*, signifying rough or rude.

Jussiæa. In honor of B. Jussieu, the great French botanist.

(1) var. crassifolius, E. Ph. Bw. echinatus, M. (2) fluitans, Mx. verticillatus, Ph. (3) repens, N. prostrata, M.

lanceolate, entire, with the peduncles and calyx villose: flowers decandrous. 2—3 f. Charleston, S. C.

erecta, W. (y. Au. 2ℓ.) erect, glabrous: leaves lanceolate: flowers octandrous, sessile.

subacaulis, Ph. (W. y. J. 2ℓ.) creeping, glabrous: leaves lance-linear, repand-toothed: flowers solitary, octandrous, peduncled: alternate filaments shortest; petals obovate.

leptocarpa, N. (W. y. ☺.) erect: stem and calyx somewhat hirsute: leaves lanceolate, attenuate at each end: flowers sessile: capsule slender, cylindric.

tenuifolia, N. ( ) leaves sessile, linear, glabrous: flowers sessile, octandrous. Florida.

2—1. JUSTI'CIA. 40. 36.

pedunculosa, Vahl. (1) (water willow. W. Ju. ♄.) spikes axillary; flowers crowded: peduncles elongated, alternate: leaves lanceolate. *S.* H. Niagara river.

Exotic.

adhatoda, (malabar nut. p. ♄.) leaves lance-ovate: bracts ovate, nerved, permanent: helmet of the corol concave.

Southern.

humilis, Vahl. (Ju. 2ℓ.) spikes axillary and terminal, few-flowered: flowers distant: bracts linear: leaves lance-oblong.

brachiata, Ph. (W. r. Ju. 2ℓ.) peduncles axillary in whorled racemes: pedicels in pairs: bracts obovate, 3-flowered: leaves ovate, acute: petioles very long: stem six-angled, very branching.

K.

10—1. KAL'MIA. 18. 50.

latifolia, W. (broad-leaved laurel. W. w. & r. Ju. ♄.) leaves long-petioled, scattered, and in threes, oval, smooth both sides: corymbs terminal, with viscid hairs. 3—20 f. *S.* B. P. T. F. M. N. Florida.

angustifolia, (sheep laurel, dwarf laurel. O. J. ♄.) leaves in threes, petioled, oblong, obtuse, sometimes rusty beneath: corymbs lateral: bracts linear: peduncles and calyx with glandular hairs. Var. *ovata*, taller: leaves broader, sub-ovate. 2—3 f. *S.*

glauca, A. (2) (swamp laurel W. r. M. ♄.) branchlets 2-edged: leaves opposite, sub-sessile, oblong smooth, glaucous beneath, margin revolute; corymb terminal. bracted; peduncles and calyxes very glabrous. Var. *rosmarinifolia*, leaves linear, green beneath. 18—24 i. D. P. N. F. T. Plainfield, Mass.

Southern.

cuneata, Mx. (A. w. r. ♄.) leaves scattered, sessile, wedge-form, ob-

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Justicia. In honor of James Justice, a botanist of Edinburg.

Kalmia. In honor of Dr. Kalm, a pupil of Linneus.

(1) Dianthera americana, L. ensiformis, Wr.

(2) polifolia, Wm.

long, pubescent beneath, slightly awned at the apex: corymbs lateral, few-flowered.

hirsuta, Wr. (r. Ju. ♄.) branches, leaves and calyx hirsute: leaves opposite and alternate, sub-sessile, lanceolate; peduncles axillary, solitary, one-flowered, longer than the leaves. 10—18 i. Charleston, S. C.

5—2. Ko'CHIA. 12. 29.

Southern.

dentata, W. (1) (W. J. ☺.) leaves lanceolate, sinuate-toothed: stem erect, very branching.

dioica, N. (W. M. ☺.) low: branching axillary: leaves sessile, very entire, lance-ovate, acute, glaucous, somewhat succulent: staminate flowers terminal, conglomerate. Both species resembles Chenopodium. 6—12 i.

3—2. KOELE'RIA. 4. 10.

pennsylvanica, Sl. (2) (J. 2ℓ.) leaves flat, and with the sheaths soft-pubescent; panicle oblong, slender, rather loose: calyx 2-flowered: glumes nearly equal; lower one oblong, obtuse, sub-mucronate; upper valve of the corol scabrous. 2 f. O. N. T.

truncata, M. (3) (J. 2ℓ.) leaves flat, smooth: panicle oblong, racemed: calyx 2-flowered with a third abortive floret, unequal; lower glume a litte scabrous, obtuse: corol glabrous. 2 f. Var. *major*, T. panicle large, a little spreading; leaves broad-linear, very long. 3 f. S. O. N.

Southern.

nitida, N. (W. ☺?) spike elongated; lobed; lobes crowded, appressed, approximate: spikelets oblong-ovate, smooth, awnless: lower ones 2-flowered; upper ones 3, both with an additional setaceous rudiment: stipule hairy. 8 i. D.

paniculata, N. ( ) panicle oblong, smooth: spikelets 2—3-flowered, shining; glumes awnless: valves of the calyx very unequal; largest one obtusely truncate.

cristata, S. (4) (W. Ju. 2ℓ.) spike somewhat lax: spikelets diverging, 3—4-flowered, somewhat awned and wrinkled, sub-ciliate on the keel.

4—1. KRAME'RIA. 33. 93.

lanceolata, T. & J. (W. y. ♄.) hoary-pubescent: leaves lanceolate, acute, villose: pedicels axillary, about twice as long as the leaves.

17—1. KRI'GIA. 49. 53.

virginica, Mx. (5) (dwarf dandelion. y. M. ☺.) small: leaves lyrate,

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Kochia. In honor of Koch, a German botanist.

Koeleria. In honor of M. Kohler, a German botanist.

Krameria. In honor of two German botanists, Kramer, father and son.

Krigia. In honor of David Krieg, a German botanist, who found many new plants in the U. S.

(1) Salsola platyphylla, Mx. (2) Aira, Sl. M. (3) Aira, M. triflora, E. (4) Aira, L. (5) Hyoseris, Mx.

glaucous, smoothish, ciliate: scape 1-flowered, becoming elongated after flowering: calyx about 8-leaved. Var. *dichotoma*, caulescent, dichotomous. 4—8 i. *S.* T. B. F. N. D.

amplexicaulis, Mx. (1) (y. Ju. 2[.) glaucous: radical leaves spatulate, lanceolate and oval, toothed: scape somewhat leafy and branched. 12—14 i *S.* D. N.

griffithii, N. (7) (y. 2[.) very glabrous: glaucous: radical leaves runcinate-lyrate, oblong; cauline ones clasping, stems few-flowered (2—3): flowers long peduncled. Philadelphia.

Southern.

caroliniana, Wr. (2) (Ap. y. 2[.) leaves runcinate, nearly glabrous: scapes very long, with the base of the calyx glandular-hairy. 6—12 i.

dandelion, (3) (y. 2[.) glabrous: slightly glaucous: leaves lance-linear, entire, smooth: scape 1-flowered. 8—18 i.

montana, Mx. (4) (A.) very glabrous, procumbent: leaves lanceolate, entire: scape 1-flowered.

occidentalis, N. (W y.) glabrous, small: leaves sub-lyrate, attenuate: scape nakedish, one flowered: divisions of the calyx lance-ovate: bristles of the egret very short. Arkansas.

lyrata, N. (7) (y. 2[.) very glabrous: stemless: leaves sub-lyrate, oblong, acute: scape one-flowered, naked: divisions of the calyx linear acute. Arkansas.

17—1. KUHN'IA. 49. 55.

eupatoroides, W. (5) (false boneset. w. Au. 2[.) glabrous: leaves petioled, broad-lanceolate, serrate: corymbs terminal, few-flowered, compact. 2—3 f. *S.* P.

critona, W. (6) (y. Au. 2[.) pubescent: leaves narrow-lanceolate, about 2-toothed below, petioled, punctate beneath; upper ones linear, entire, sessile: panicle terminal, spreading. 3 . *S.* P.

glutinosa, E. (W. w. S.) pubescent, glutinous: leaves lanceolate, tapering towards the summit, notched and toothed, crowded: flowers corymb-panicled. 2 f.

3—1. KILLIN'GA. 3. 9.

monocephʼala, (false bog-rush. 2[.) culm filiform, 3-sided, with a leafy base: heads globose, sessile: involucres 3-leaved, very long. T. Y. N.

Southern.

pumila, Mx. (W. J. 2[.) head globose, sessile, solitary: involucre short (long E:) culm setaceous: flowers diandrous. 3—6 i.

maculata, Mx. (Ju. 2[.) calyx 1-leaved, imbricate: corol 2-valved; valves unequal: heads about 3, ovate, sub-acute, sessile. 3—5 f.

Kuhnia. In honor of Adam Kuhn, of Pennsylvania, a pupil of Linneus.

Kyllinga. In honor of Peter Kylling, a Danish botanist.

(1) Troximon, Ph. Hyoseris, Mx. (2) Hyoseris, Wr. (3) Hyoseris angustifolia, Ph. Tragopogon, L. (4) Hyoseris, Mx. (5) Eupatorium alternifolium, L. (6) Critonia kuhnia, Mx. (7) Cynthia.

L.

Lachnanthes, DILATRIS.

17—1. LACTU'CA. 49. 53.

elongata, M. (1) (wild lettuce. O. y. J. ♂. or 2f.) leaves smooth beneath, lower ones runcinate, entire, clasping; lowest ones toothed, highest ones lanceolate: flowers corymb-panicled. 3—6 f. *S.*

hirsuta, M. (W. y. Au 2f.) lower part of the stem and leaves hairy: radical leaves lyrate; segments truncate, sub-dentate; upper ones partly runcinate-pinnatifid: flowers racemed.

integrifolia, Bw. (W. y. Ju. ♂?) leaves sagittate, entire, unarmed, clasping, pale beneath, midrib smooth; lower ones a little eroded: flowers panicled. 3—4 f. *S.* B. C.

sanguinea, Bw. (wood lettuce. r. Au. ♂?) leaves clasping, glaucous beneath, runcinate, with the midrib filamentous: flowers panicled. 2—3 f. B. C.

Exotic.

sativa, (lettuce. y. Ju. ☺.) leaves roundish; cauline ones cordate: stem corymbed. Var. *romana*, has oblong, straight leaves, narrowed at the base. Var. *crispa*, has sinuate-crenate leaves, toothed, undulated, crisped; radical ones hairy on the keel. Var. *laciniata*, has the lower leaves pinnatifid, and the upper ones runcinate.

Southern.

graminifolia, Mx. (p. Ju.) stem erect, simple: leaves unarmed, generally undivided, simple at the base, long-linear; panicle leafless, loose; branches few-flowered; flowers all peduncled. 3 f.

sagittifolia, E. (y? Au.) stem erect, glabrous: leaves lance-oblong, acute, entire, glabrous, pale beneath, close sessile, sagittate at the base: flowers panicled.

13—1. LA'MIUM. 42. 42.

amplexicaule, (hen-bit, dead nettle. O. p. M. ☺.) floral leaves sessile, clasping, obtuse: radical leaves petioled, sub-orbicular. 6—10 i. *S.*

purpureum, (p. ☺.) leaves cordate, obtuse, toothed, petioled, crowded at the top: stem nakedish downwards. P.

Exotic.

garga'nicum, (dead nettle. 2f.) leaves cordate, concave; throat of the corol inflated, tube short.

Southern.

hispidulum, Mx. (W. w.) stem hispid: leaves long petioled, broad-cordate, pubescent: axils 1-flowered.

Lactuca. Lat. *lac*, milk, from its milky juice.

Lamium. Lat. *lamium*, from Gr. *laimos*, the throat, alluding to the shape of the corol; or from the sea-monster Lamia, from the grotesque figure of the flower.

(1) longifolia, Mx.

13—2. LANTA'NA. 40. 41.

Southern.

camara, (y. Au. ♄.) leaves opposite, lance-ovate, crenate and serrate, scabrous: stem rough, not prickly: flowers in umbellate heads, leafless. 2—4 f.

17—1. LAP'SANIA. 49. 53.

communis, L. ( ) fruit at the margin of the calyx angled: stem panicled; peduncles slender: leaves ovate, petioled, angular-dentate. Canada. Probably introduced.

Larbrea, STELLARIA.

Larix, PINUS.

16—10. LA'THYRUS. 32. 93.

palustris, (marsh-pea. w-p. Ju. 2f.) stem winged: stipules lance-semi-sagittate: leafets six, lance-linear, acute: peduncles about 3-flowered. B. O. D. Canada. Peekskill.

myrtifolius, W. (1) (r. Ju. 2f.) stem naked, winged, 4-cornered: stipules semi-sagitate, lance-ovate, acuminate: leafets 4, lance-oblong, acute, mucronate, net-veined: peduncles longer than the leaves, about 4 or 5-flowered. C. T. P. R.

venosus, W. (W. p. Ju. 2f.) stem naked, 4-cornered: stipules semi-sagittate, ovate, acuminate: leafets numerous, somewhat alternate, ovate, obtuse, mucronate veiny: peduncles shorter than the leaves, 5—40-flowered. Often called myrtifolius. P. D. O.

maritimus, Bw. (2) (beach pea. p. Ju. 2f.) stem compressed, 4-angled: stipules sagittate: leafets numerous, sub-alternate, obovate: peduncles shorter than the leaves, about 7-flowered. B. C. F. D.

albidus, Aikin. (y-w. J. 2f.) stem 4-angled, somewhat winged, glaucous: stipules large, semi-sagittate, lance-ovate, acute, or acuminate, somewhat toothed at the base: leafets (6—10) ovate, obtuse, mucronate, veined, paler beneath, opposite or sub alternate: peduncles shorter than the leaves 6—12-flowered: tendrils divided: whole plant glabrous; flowers large, downwardly inclined. 12—18 i.

ochroleucus, Rich. (y.) very glabrous: leafets 3—4-paired, broad-oval or ovate: stipules broad, semi-cordate, sub-hastate, angled with the angles obtuse, and sometimes obtusely toothed, scarcely smaller than the leafets: peduncles many-flowered, somewhat equalling the leaf: the two upper divisions of the calyx abbreviated: legumes long-linear, acuminate, compressed, glabrous. A. R.

stipulaceus, Le Conte (W.) very glabrous: stem acute 4-angled, (scarcely winged): leafets 3-paired, elliptic, mucronate: stipules ovate-semisagittate, acuminate, large: peduncles 4—6-flowered, long-

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Lantana. Lat. *lentus*, flexible; this name was first applied to the genus Viburnum, with which this agrees in some things.

Lapsania. Gr. *lapazo*, to relax, on account of its laxative qualities.

Lathyrus. Gr. *lathuros*, a name employed by Theophrastus to designate a leguminous plant.

(1) stipulaceus, Le Conte. (2) Pisum maritimum, Ph.

er than the leaf: legumes linear, acuminate, compressed, glabrous. Canada. D.

Exotic.

odoratus, (sweet pea. J. ☺.) peduncles 2-flowered: tendril with 2 ovate oblong leafets: legumes hirsute.

latifolius, (everlasting pea. Au. 2ſ.) peduncles many-flowered: tendril with 2 lance-ovate leaves; membranaceous between joints.

cly'menum, (various pea. ☺.) peduncles 2-flowered: tendril with many lanceolate leafets: stipules toothed.

articulatus, (jointed pea. Ju. ☺.) peduncles about 1-flowered: tendril with many alternate lanceolate leafets: legume jointed.

sati vus, (chick vetch. ☺.) peduncles 1-flowered, tendrils with 2 and 4 leafets; legumes ovate, compressed, with two narrow wings on the back.

pusillus, E. (p. M.) peduncles long, 1-flowered: stipules falcate: tendril 2-leaved, simple: leaves lance-linear: stem winged.

decaphyllus, Ph. (1) (W. p. 2ſ.) stem 4-angled: stipules linear, semi-sagittate: leaves in 5 pairs; leafets oval-oblong, mucronate: peduncles 3—4-flowered. D.

9—1. LAU'RUS. 12. 27.

caroliniensis, Mx. (y. J. ♄.) leaves lance-oval, coriaceous, glaucous beneath; peduncles simple, terminated with a few-flowered fascicle: outer segments of the corol half as long as the inner ones. Var. *glabra*, leaves glabrous beneath. Var. *pubescens*, leaves pubescent beneath. Var. *obtusa*, leaves obovate, obtuse. Leaves perennial. 10—30 f. *S.* Charleston, S. C. Florida.

benzo'in, (spice bush, fever bush. O. g. y. Ap. ♄.) leaves wedge-obovate, whitish sub-pubescent beneath: flowers in clustered umbels: buds and pedicels glabrous. 4—10 f. *S.*

sas'safras, (sassafras tree. O. y. M. ♄.) leaves entire and lobed on the same plant: flowers mostly dioecious. 10—40 f. *S.*

Exotic.

cam'phora, (camphor tree. ♄.) leaves about 3-nerved, lance-ovate: panicle spreading. From Japan.

Southern.

catesbyana, Mx. (w. M. ♄.) lance-ovate leaves and branches glabrous: panicles short peduncled: divisions of the corol oblong, obtuse, nearly equal, caducous. Leaves perennial. 6—9 f.

aestivalis, ( ) leaves veined, oblong, acuminate, rugose beneath: branches super-axillary.

melissaefolia, Wr. (2) (y. Ap. ♄.) leaves heart-lanceolate, veined, pubescent beneath: flowers in clustered umbels: buds and pedicels villous. 2—3 f.

geniculata, Wr. (y. Ap. ♄.) branches divaricate-flexuose: leaves small, oval, smooth: umbels terminal, few-flowered. 10—15 f.

Lau'rus. Lat. *laurus;* the obscurity of its derivation denotes its antiquity. The Celtic *blaur*, (pronounced *laur*) signifies green.

(1) polymorphus, N. Vicia stipulacea, Ph? (2) dyospyrus, Ph.

albida, N. (white sassafras. ♄.) buds and younger branches smooth and glaucous: leaves entire or lobed, every where smooth and thin, obsoletely veined beneath: petiole longer. Is this a distinct species?

13—1. LAVAN'DULA. 42. 42.

Exotic.

spica, W. (lavender. Au. 2ſ.) leaves sessile, lance-linear with revolute margins: spike interruptedly naked.

15—13. LAVATE'RA. 37. 74.

Exotic.

thurin'giaca, (gay mallows. 2ſ.) lower leaves angled; upper ones 3-lobed, with the middle lobe longest: peduncles solitary.
arborea, (tree mallows. S. ♂.) leaves 7-angled: peduncles crowded.

3—3. LECHE'A. (1) 22. 80.

major, (2) (pin-weed. W. g-p. Ju. 2ſ.) erect, hirsute: leaves lance-oblong, mucronate: panicle leafy; branches bearing flowers at their tops: flowers in fascicled racemes, one-way, short-pedicelled. 1—2 f. *S.* B. P. C. F. N.
minor, (W. g-p. Ju. 2ſ.) smoothish: leaves lance-linear, acute, panicle leafy: branches elongated, bearing flowers on all parts: stem ascending. 8 i. B. C. F. H. N. D.
racemulosa, Mx. (W. Ju. 2ſ.) pubescence close-pressed: leaves linear, acute, ciliate: panicle slender, very branching, nakedish: flowers small, alternate, pedicelled: stem erect. *S.* Y. B. P. M. Peekskill.
thymifolia, Mx. (Ju. 2ſ.) white down close pressed on all sides: leaves linear. acute: panicle elongated, leafy: branches short: flowers in lateral and terminal fascicles: pedicels very short: stem erect. *S.* Y.
tenuifolia, Mx. (W. J. 2ſ.) somewhat pilose: leaves very narrow: panicle divaricate: pedicels elongated, divaricate: stem erect. (Flowers solitary, racemed: stems decumbent and assurgent. Elliott.) *S.*

Remark. All the species of this genus have a barren aspect; and give pastures a very unsightly arid appearance.

*Leconti*a, RENSSELAERIA.

10—1. LE'DUM. 18. 50.

palustre, (marsh-tea. w. M. ♄.) leaves linear, margins revolute, iron-

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Lavandula. Lat. *lavo*, to wash, from its distilled waters being used in sprinkling in baths.
Lavatera. Named by Tournefort, in honor of two Lavaters, physicians of Zurich
Lechea. In honor of John Leche, Prof. of Medicine at Abo.
Ledum. Lat. *lædo*, to hurt, from its supposed qualities.
(1) Helianthemum, S. (2) villos & E.

rust down beneath: stamens 10, longer than the corol. Canada.

latifolium, A. (1) (labrador-tea. w. r. J. ♄.) leaves linear-oblong, folded in at the margin, iron-rust down beneath: stamens mostly 5, equalling or longer than the corol. About swamps. D. T. P. O. N. Pittsfield, Ms. White Mts.

Ledum, LEIOPHYLLUM.

3—2. LEER'SIA. 4. 10.

virginica, W. (white grass, rice grass. W. Ju. 2ℓ.) panicle simple; lower branches diffuse: flowers appressed, monandrous, sparingly ciliate on the keel. Flowers often diandrous and triandrous, larger and more ciliate. 3—4 f. S. P. C. M. T. N.

oryzoi'des, (2) (cut grass. W. Au. 2ℓ.) panicle diffuse, sheathed at the base: flowers triandrous, spreading: keel of the glumes conspicuously ciliate. 3—5 f. S. Y. B. P. C. F. M. O. T. N.

lenticularis, MX. (catch-fly grass. W. Ju. 2ℓ.) panicle erect: flowers large, roundish, diandrous, imbricate; keel and nerves ciliate. 2—4 f. C.

Leimanthium, MELANTHIUM.

10—1. LEI'OPHYL'LUM. 18. 50.

buxifolium, P. (3) (sand myrtle, sleek leaf. w. ♄.) leaves small, lance-oval, entire, glabrous, lucid, revolute at the margin: corymbs terminal. 6—8 i. S. Y.

19—2. LEM'NA. 54. 7.

trisulca, (duck meat. W. ☺.) leaves thin, lance-oval, caudate at one end, serrate at the other: roots solitary. Water. N. T.

minor, (green duck meat. W. J. ☺.) leaves nearly ovate, compressed: roots solitary. Var. *cyclostasa*, leaves elliptic, flat on both sides, cohering in a circular arc: roots solitary. Water. S.

gibba, (W. ☺.) leaves obovate, nearly flat above, hemispherical beneath: roots solitary. Water. C.

polyrrhiza, (water flaxseed. W. Ju. ☺.) leaves round obovate, compressed: roots numerous, fascicled. The leaves of this species become purplish and greatly resemble flaxseed scattered on the surface of stagnant waters. The roots rarely reach the ground; but merely extend downwards a few inches into the water. S. W. P. T. V. C. D. F. O. N.

Leersia. In honor of John Daniel Leers, a German botanist.

Leiophyllum. Gr. *leios*, smooth, and *phŭllon*, leaf, in allusion to its foliage.

Lemna. Gr. *lenima*, a husk or shell, from the shape of the leaves. Theophrastus describes under this name an aquatic plant.

(1) palustre, MX. (2) Phalaris, L.

(3) Amyrsine buxifolia, Ph. Ledum thymifolium, Lk.

Leontice, CAULOPHYLLUM.

17—1. LEON'TODON. 49. 53.

taraxa'cum, (dandelion. O. y. Ap. 2ſ.) outer calyx reflexed: scape flowered: leaves runcinate, with toothed divisions. Introduced.
palustre, S. (marsh dandelion. 2ſ.) outer calyx scales short, erect, ovate: leaves sinuate-toothed, somewhat glabrous. *S.*

13—1. LEONU'RUS. 42. 42.

Exotic.

cardi'aca, (motherwort. w-r Ju. 2ſ.) leaves 3-lobed, toothed, bases wedge-form: calyx prickly, less than the corol. Naturalized. 2—3 f.
marrubias'trum, W. (r. Au.) leaves lance-ovate, toothed: calyx somewhat prickly, as long as the corol. Naturalized. 2—4 f.

14—1. LEPID'IUM. 39. 63.

virginicum, (1) (wild peppergrass. O. w. J. ♂.) radical leaves pinnatifid; cauline ones lance-linear, somewhat gash-serrate: flowers 4-petalled, mostly with but two stamens: silicles lens-form. 12—18 i. *S.*
ruderale, L. ( ) flowers diandrous, apetalous: radical and cauline leaves pinnatifid or incised; branch leaves linear, very entire: silicles (small) broad-oval, emarginate, spreading: cotyledons incumbent. A.
menziesia, Dc. ( ) flowers diandrous, apetalous: radical leaves bipinnatifid; cauline and branch-leaves many, pinnatifid, upper ones linear, very entire: a Var. radical leaves hispid. Another Var. radical leaves pubescent. R.

Exotic.

sativum, (peppergrass. w. Ju. ☺.) leaves oblong, many-cleft.

2—1. LEPTAN'DRA. 40. 37.

virginica, (2) (culver's physic, tall veronica. O. w. Au. 2ſ.) spikes terminal, long; leaves whorled: stem erect. Var. *purpurea*, Ph. flowers purple. 3—8 f. *S.*

Leptanthus, SCHOLLERA.

10—2. LEPTAR'RHENA. 45. 60.

pyrolifolia, Br. (2ſ.) stem woody at the base, covered with rudi-

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Leontodon. Gr. *leōn (leōntos)* lion, and *ōdous*, tooth, from the jagged edges of the leaves.
Leonurus. Gr. *leōn*, lion, and *oura*, tail; so named from its spikes resembling the tuft on the end of the lion's tail.
Lepidium. Gr. *lepis*, a scale; the form of the silicles being that of little scales.
Leptandra. Gr. *leptos*, slender, and *anēr (andros,)* stamen, in reference to its form.
Leptarrhena. Gr. *leptos*, slender, thin, *renos*, wool, flock, &c. Sed quere.
(1) Senebiera pinnatifida, Dc. (2) Callistachia, R. Veronica, L.

ments of withered leaves: leaves ovate, coriaceous, petioled, glabrous, above, shining, reticulate, margin crenate: flowers coarctate-panicled: pedicels and calyx covered with short glutinous pubescence: sepals very short, obtuse: petals linear, longer than the calyx. R. A.

Leptarrhenna, SAXIFRAGA.

5—2. LEP'TOCAU'LIS. 45. 60

inermis, N. (☉.) fruit unarmed, somewhat rugose: lobes of the leaves capillary: umbels 4—5 rayed: leafets of the involucels 3—4.

diffusus, N. (☉.) fruit with bristles somewhat close-pressed, muricate: branches and rays divaricate: umbels and umbellets 3-rayed; pedicels of the umbellets somewhat equalling the rays of the umbel. Stem erect, slender, branching at the apex: lobes of the leaves capillary; leafets of the involucels 1—2: pedicels ½ an inch long. R.

divaricatus, Dc. (1) (w. ☉.) Described under Æthusa.

patens, N. (☉.) fruit tuberculose-muricate; branches divaricate: rays of the umbels and umbellets 4—5, contracted: lobes of the leaves cappillary. R.

echinatus, N. (☉.) fruit with spreading bristles, echinate: branches at length divaricate: umbels and umbellets sparingly diverging. R.

Leptochloa, OXYDENIA.

17—3. LEP'TOPO'DA. 49. 55.

Southern.

fimbriata, W. (2) (y. Ap. 2ℓ.) stem viscid-pubescent, striate: leaves alternate, lance-linear, half clasping, glabrous, punctate; cauline ones gash-toothed: chaff of the egret torn. 2 f. Florida.

decurrens, Macbride. (3) (y. Ap. 2ℓ.) stem very glabrous: leaves lance-linear, toothed, glabrous, decurrent: chaff of the egret torn. 12—18 i.

3—2. LEPTU'RUS. 4. 10.

paniculatus, N. (W. J. ☉.) rachis incurved, compound, acutely triangular; branches and summit floriferous: spikes subulate, compressed, one-sided: calyx 2-valved, acuminate, 1-flowered. 10 i.

5—3. LEPU'ROPE'TALON. E. (4) 21. 84.

Southern.

spathulatum, M. (w. Ap. ☉.) glabrous: stem erect and procumbent, someweat succulent, sub-angled: leaves alternate, sessile, lance-spathulate, obtuse, entire. 1—2 i.

Leptocaulis. Gr. *leptos*, slender, *kaylos*, stem.

Leptopoda. Gr. *leptos*, slender, and *pous (podos)* foot or stem, from the weakness of the stem?

Lepturus. Gr. *leptos*, slender, and *oura*, tail, from its long, slender, cylindrical spike.

Lepuropetalon. Gr. *lepuron*, rind or peel, and *petalon*, a petal, from the appearance of the petals.

(1) Daucus divaricatus, Wr. Sison pusillum, Mx. Ammi divaricatum, and Ligusticum pusillum, Mx. Sison divaricatus, Spreng. Æthusa divaricata, N. (2) puberula, Macbride. Galardia, Mx. (3) Helenium N. (4) Pixidanthera, M.

16—10. LESPEDE'ZA. (1) 32. 93.

capitata, Mx. (2) (O. w-p. J. 2ſ.) leaves ternate, lance-oblong, obtuse, silky beneath: stipules subulate: racemes axillary, ovate, shorter than the leaves; legumes hairy, shorter than the calyx. 3—6 f. *S.*

angustifolia, Ph. (W. w-p. S. 2ſ.) leaves oblong, oval and lanceolate, hoary-pubescent beneath: racemes capitate, longer than the leaves: corol longer than the calyx. 3—5 f. *S.* P. C. F. H. M.

stuvei, N. (p. S.) erect, simple: soft-downy: leafets oval: spikes peduncled, scarcely longer than the leaves: legume naked, pubescent. 2—3 f. *S.* Y. P.

polystachia, Mx. (3) (W. w-r. Ju. 2ſ.) erect, branching, very villose: leafets round-oval: spikes axillary, long peduncled: corol and legume about equal to the calyx. 2—4 f. *S.* B. C. F. O. M. N. T.

sessiliflora, Mx. (4) (bush clover. O. p. Ju. 2ſ.) erect: leaves oblong: fascicles of flowers sessile, numerous: legume nearly naked, acute: calyx minute. Var. *reticulata*, stem simple, erect or erectish: leaves pubescent beneath. 1—3 f. *S.*

violacea, W. (5) (O. p. Ju. 2ſ.) leafets oval, obtuse: racemes umbelled, as long as the petiole: flowers in pairs: legume rhombic, reticulate, glabrous. 1—2 f. *S.*

procumbens, Mx. (6) (W. p. & y. Ju. 2ſ.) procumbent, slender: pubescent: leafets oval: peduncles very long: flowers in setaceous spikes: legumes naked: calyx minute. *S.* Y. P. B. C. F.

divergens, M. (7) (W. p. Ju. 2ſ.) diffuse, branched: leafets oblong, obtuse, close-pressed, hairy beneath; racemes longer than the petioles: flowers in pairs: legumes ovate, reticulate, smooth. Probably a variety of the violacea. 1—2 f. *S.* P. B. C. O.

repens, (p. Au. 2ſ.) leaves round-oval, emarginate: racemes axillary: legume repand toothed: stem creeping. P.

prostrata, (W. 2ſ.) prostrate, slender, glabrous: petioles somewhat shortened; leafets oval, obtuse; mucronate, a little hairy beneath; racemes axillary, slender, with scattered florets longer than the leaves: calyx shorter than the corol: legumes ovate, sub-pubescent. P. New-Jersey. Hedysarum prostratum. L.

Southern.

longifolia, (2ſ.) stem erect, angled, pubescent: petioles very short: leafets oblong, glabrous above, silk-silvery and close pressed beneath: racemes fascicle-corymbed, many-flowered, axillary and subterminal: legume shorter than the acuminate lobes of the calyx. Louisiana.

frutescens, (8) (2ſ.) erect, villose: petioles very short; leafets oval, obtuse, sub-mucronate, silk-hairy beneath: racemes axillary, sub-sessile, shorter than the leaves: calyx shorter than the corol: legumes hairy, shorter than the calyx. In Carolina.

villosa, N. (2ſ.) erect, branching, cotton downy: petioles sub-elon-

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Lespedeza. Named by Mx. in honor of Lespedez, governor of Florida.
(1) Hedysarum, W. (2) frutescens, W. (3) hirtum, W.
(4) Hedysarum reticulatum, M. Medicago virginica, L. (5) divergens, Ph. (6) prostrata, Ph. (7) Hedysarum, M. (8) Hedysarum frutescens, L.

gated: leaves oval obtuse; spikes axillary, slender, thrice or four times longer than the leaves: calyx shorter than the corol and longer than the legumes. Hedysarum hirtum, L.

13—1. Leu'cas. 42. 42.

Southern.

martinicensis, Br. ( ) leaves entire: whorls many-flowered, capitate. Probably introduced.

12—1. Lewis'ia. 13. 86.

Southern.

rediviva, Ph. (W. w. Ju. 2[.) leaves radical, linear, somewhat fleshy, obtusish: scape 1—2-flowered: pedicel geniculate at the base: capsule oblong.

17—1. Lia'tris. 49. 55.

squarrosa, W. (1) (W. r. Au. 2[.) stem simple, hairy: leaves long-linear, nerved; margin a little scabrous: raceme leafy, few-flowered: scales of the calyx leafy above, lanceolate, rigid, spreading. 2—3 f. *S.* C. Y. N.

scariosa, (2) (W. b. Au. 2[.) stem simple, sub-pubescent: leaves lanceolate, tapering to both ends, glabrous, with scabrous margins: calyxes squarrose below, racemed, alternate, distant: scales spatulate, with membranous colored margins. *S.* P. Y. C. D. F. H. N.

spicata, W. (3) (gay feather, button snakeroot. W. r. Au. 2[.) stem simple, tall: leaves linear, glabrous, ciliate at the base, nerved, and punctate: spike very long: flowers sessile: scales of the calyx linear-oblong, obtuse, close-pressed. 2—4 f. *S.* P. N. D.

pilosa, W. (p. S. 2[.) stem simple, pubescent: leaves linear, pilose, ciliate: heads racemose, lax; scales of the calyx oblong, obtuse: pedicels bracted. Var. *dubia*, E. stem striate sub-pilose: leaves long-linear; lower ones lance-linear, punctate, acute, pilose and ciliate near the base, nearly glabrous towards the summit: racemes long, leafy. Perhaps a distinct species. Elliott. 2—3 f. *S.*

cylindricea, Mx. (W. p. Au. 2[.) slender, hirsute: leaves grass-like: spike few-flowered: calyx sub-sessile, cylindric, few-flowered; scales round at the summit, abruptly mucronate. 1—2 f. *S.* D.

Southern.

1. *Flowers in spikes or racemes: roots bulbous.*

pycnostachya, Mx. (W. S. 2[.) stem simple, hirsute: leaves straight,

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Leucas. Gr. *leukos*, white, so called on account of the whiteness of the flower.

Lewisia. In honor of Gen. Merriwether Lewis, the leader of the first expedition to the Rocky Mts.

Liatris. A name probably derived from Gr. *liazo*, to come forth.
(1) Serratula, L. (2) Serratula, L. Liatris squarrulosa, Mx.
(3) macrostachya, Mx. Anonymous graminifolus, Wr. Serratula spicata, L.

narrow-linear, pubescent: spike long: flowers clustered, sessile: calyx appressed, squarrose at the summit. 2—4 f.

graminifolia, Wr. (W. p. S. 2f.) stem simple, glabrous: leaves very long-linear, glabrous, nerved, margin sub-scabrous: midrib hairy above: flowers distant sub-sessile: scales of the calyx oblong, obtuse, mucronate, ciliate, appressed; inner ones colored. 2—4 f.

heterophylla, W. (S. 2f.) stem simple, glabrous: leaves lanceolate, glabrous, smooth; upper ones lance-linear, much smaller: heads spiked, short peduncled, sub-squarrose: scales of the calyx lanceolate, acute, naked.

aspera, Mx. (W. S. 2f.) stem somewhat branching, scabrous-pubescent: leaves lance-linear, very rough: heads short, spiked, distinctly alternate, solitary, sessile: scales of the calyx roundish, obtuse, connivent.

gracilis, Ph. (W. p. S. 2f.) stem slender, hairy, (glabrous, Ph.) leaves linear glabrous, ciliate at the base: heads in racemes, about 7-flowered: scales of the calyx obovate, ciliate, appressed. A variety of the *pilosa*, N. 2—3 f.

tenuifolia, N. (p. S.) stem slender, glabrous: lower leaves crowded linear, a little hairy at the base; upper ones setaceous: raceme very long: pedicels leafy: scales of the calyx oblong, mucronate. 2—4 f.

resinosa, N. (p.) glabrous: leaves linear, crowded: heads spiked, oblong, 4—5-flowered: scales of the calyx obtuse, appressed, resinous, at length hoary. 2 f.

secunda, E. (p. S. 2f.) stem reclining, pubescent: leaves linear, glabrous, sparingly ciliate at the base: racemes one-sided: scales of the calyx lanceolate, acute, appressed. 2—3 f.

sphaeroidea, Mx. (p. S. 2f.) leaves smooth: lower ones broad, lanceolate; upper ones narrow: flowers racemed, large, solitary, alternate: calyx sub-globose: scales oval, erect. 2—4. f.

elegans, Wr. (1) (O. p-r. Oc. 2f.) stem simple, villous: leaves lance-linear, sub-scabrous beneath: raceme cylindrical; flowers crowded: inner scales of the calyx ligulate, colored. 3—5 f.

pauciflosculosa, N. (2f.) leaves sub-coniform, lower ones lance-linear, upper ones linear, acute, glabrous: raceme very long, few-flowered: calyx somewhat 3-flowered, pedicels filiform: scales of the calyx oblong, obtuse: stem finely pubescent. Alabama.

brachystachya, N. (2f.) very glabrous: leaves near together, linear, acute: spikes abbreviated, oblong: flowers close together: calyx squarrose, sub-5-flowered, divisions oblong, acute, inner ones colored. Spike 3 inches long. Arkansas.

virgata, N. (2f.) finely pubescent: leaves linear scattered: racemes compound, branch-panicled, branchlets somewhat one-flowered, with small leaves: calyx sub-hemispheric, many-flowered, scales obtuse, appressed. Georgia and North Carolina.

2. *Flowers in panicles or corymbs: roots not bulbous.*

pauciflora, Ph. (2f.) stem simple, glabrous; leaves linear: panicle virgate, leafy; branches short, few-flowered: calyx sessile, secund, 3—5-flowered: scales erect, lanceolate, acute, glabrous.

(1) Staehelina, W.

paniculata, Wr. (p. S. 2ℓ.) stem simple, hairy-viscid: leaves lanceolate, nerved, sub-glabrous: panicle contracted: calyx about 5-flowered; scales lanceolate. 1—2 f.

odoratissima, Wr. (p. S. 2ℓ.) very glabrous: stem simple: leaves ovate and lanceolate, nerved, toothed, sub-glaucous: panicle corymbed: calyx 7—8-flowered, scales obovate, obtuse. 3—4 f.

tomentosa, Mx. (1) (p. S. 2ℓ.) stem simple and with the wedge-lanceolate leaves hirsute: corymb few-flowered, depressed-divaricate: branches few-flowered: calyx tomentose; scales ovate, acute. 2 f.

bellidifolia, Mx. (p. 2ℓ.) low, sub-glabrous: leaves wedge-oblanceolate: corymb unequal; flowers all somewhat long-pedicelled: scales of the calyx oblong-oval, obtuse. 8—12 i.

walteri, E. (p. S. 2ℓ.) stem simple, hairy near the summit; leaves lanceolate, acute, glabrous, punctate, attenuate at the base: calyx many-flowered; scales acute, tomentose. 2 f.

oppositifolia, N. (2ℓ?) pubescent: leaves lanceolate, nearly opposite, nerved: stem branching; branches corymb-panicled: calyxes cylindric ovate, smallish, about 15—20-flowered; scales oblong, obtuse; inner ones colored; egret a little scabrous. Florida.

fruticosa, N. (p. ♄.) glabrous: stem fruticose; branches corymbed: leaves wedge-obovate, punctate: calyxes sub-5-flowered; divisions acuminate. Florida.

squamosa, N. (2ℓ.) pulverulent-canescent; corymbose; little corymbs 3—5-flowered: radical leaves linear, long; cauline ones appressed, very short: calyx sub-hemispheric: scales acute. Alabama.

5—2. LIGUS'TICUM. 45. 60.

scoticum, Mx. (w. Ju. 2ℓ.) cauline leaves biternate; upper ones trifoliate; lateral leafets trapezoid, terminal one rhomboid: umbels stiffly erect; involucres linear, many-leaved. 18 i. B. Canada.

Exotic.

levisticum, (lovage, smellage. w. 2ℓ.) leaves long, numerous; leafets above gashed. Strong-scented.

Ligusticum, THAPSIA.

2—1. LIGUS'TRUM. 44. 34.

vulgare, (prim. W. w. J. ♄.) leaves lanceolate, acutish; panicle compact. Perhaps introduced. Indigenous in Missouri. Y. C. P. B. F. M. N.

6—1. LIL'IUM. 10. 14.

philadelphicum, (red lily, O. r. y. J. 2ℓ.) leaves whorled, lance-linear: corol erect, bell-form, spreading: petals lanceolate, having claws. 1—3 f. S.

Ligusticum. Gr. *ligustikon*, so called from Liguria, in Italy, its native place.

Ligustrum. Lat. *ligo*, to bind, from the use made of its branches.

Lilium. Gr. *leirion*, lily, smooth, graceful, or from the Celtic, *li*, which signifies whiteness.

(1) corymbosa, N.

canadense, (nodding lily. O. y. r. Ju. 2ſ.) leaves remotely whorled, lanceolate: peduncles terminal, elongated, mostly in threes: corol nodding: petals spreading. 2—3 f. *S.*

superbum, (superb lily. W. y. p. Ju. 2ſ.) leaves lance-linear, 3-nerved, glabrous; lower ones whorled; upper ones scattered: flowers in a pyramid-raceme, recurved: petals revolute. 3—6 f. *S.* P. Y. C. T. B. Catskill.

catesbaei, Wr. (1) (southern lily. W. y. r. J. 2ſ.) leaves scattered, lance-linear: stem 1-flowered: corol erect: petals with long claws; margin undulate, apex reflexed. 1—2 f. *S.* P.

pennsylvanicum, Ker. (A. r. y. Ju. 2ſ.) leaves scattered, lance-linear; the uppermost ones whorled, about equal to the flowers: stem about 1-flowered, somewhat 5-sided: peduncles woolly: corol erect, woolly outside. P. Sandusky.

Exotic.

candidum, (white lily. w. J. 2ſ.) leaves lanceolate, scattered, tapering to the base: corol bell-form, glabrous within.

bulbiferum, (orange lily. y. J. 2ſ.) leaves scattered, 3-nerved: corol campanulate, erect, scabrous within.

Southern.

pudicum, Ph. (W. y. M. 2ſ.) leaves scattered, lance-linear: stem 1-flowered: corol bell-form, nodding: petals erect, sessile, spatulate-obovate, obtuse, flat within.

umbellatum, Ph. (2) (W. r. Ju. 2ſ.) leaves scattered, linear, short, acute; upper ones whorled: flowers 1—5, terminal; erect; petals unguiculate, lanceolate, spreading.

carolinianum, Mx. (y. r. Au. 2ſ.) leaves whorled and scattered, wedge-lanceolate: flowers few, (1—3,) terminal: peduncles thick: corol revolute. This may be a variety of the *superbum*, E. 2 f.

3—1. Limnetis. (3) 3. 10.

cynosuroides, W. (4) (many-spiked salt-grass. W. Au. 2ſ.) spikes numerous (10—40,) peduncled, panicled, spreading: leaves broad, flat, at length convolute: calyx with a short awn on one of the glumes: styles 2-cleft at the summit. 4—9 f. *S.* B. T. C. O. Peekskill.

juncea, Mx. (5) (rush salt grass. L. Ju. 2ſ.) leaves 2-ranked, convolute, spreading; spikes few, (1—3,) peduncled: peduncles smooth: corol obtusish: styles 2. 18 i. T. B. C. Peekskill.

glabra, M. (L. W. Au. 2ſ.) leaves concave, erect: spikes alternate, sessile, erect, appressed: corol smoothish on the keel: style deep-cleft. 3—5 f. *S.* B. C. Peekskill.

13—2. Limosel'la. 40. 37.

subulata, Ives. (mud wort. b-w. Au. 2ſ.) leaves linear, very narrow,

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Limnetis. Gr. *limnes*, a pool or marsh, from its place of growth.

Limosella. Lat. *limus*, slime or mud, from its native soil.

(1) spectabile, Sy. carolinianum, Lk. (2) andinum, N. (3) Spartina, Sr. (4) polystachya and cynosuroides, Ph. (5) Trachynotia, Mx. Spartina, W.

scarcely dilated at the apex: scape 1-flowered, as long as the leaves. 1 i. Peekskill, Banks of Housatonic and Delaware rivers.

2—1. LINDER'NIA. 40. 37.

attenuata, M. (false hedge byssop. W. b. Au. ☉.) leaves lanceolate and obovate, narrowed at the base: peduncles shorter than the leaves, erect. S. C. F. H. N: T.

dilatata, M. (1) (pimpernel. W. b. Au. ☉.) leaves dilated at the base, clasping, remotely toothed: peduncles longer than the leaves. S. B. P. C. O. T. V.

monticola, M. (♃.) stem slender, dichotomous: radical leaves spatulate: cauline ones linear, small and remote: peduncles very long, at length deflected. 4—6 i. S. N.

Southern.

grandiflora,, N. (♃.) leaves roundish, entire, nerveless, half-clasping: peduncles very long, axillary and terminal: stem creeping.

refracta, E. (b. J. ♃.) stem slender, erect, branching, glabrous: radical leaves spatulate-oval; upper ones subulate: flowers solitary, axillary and terminal: peduncles refracted after flowering. 8—12 i.

4—1. LIN'NÆA. 48. 58.

borealis, W. (twin-flower. W. w-r. J. ♃.) stem prostrate; branches erect, each bearing 2-flowers: leaves roundish crenate. Woods. H. N. T. B. C. D. V.

5—5. LI'NUM. 14. 82.

virginianum, (wild flax. O. y. Ju. ☉.) leafets of the calyx acute: panicle terminal: flowers remotely alternate: leaves lance-linear, scattered; radical ones ovate. 1—2 f. S. Northern Lakes.

peren'ne, var. *lewisii*, Ph. (W. b Ju. ♃.) divisions of the calyx ovate, acuminate: petals wedge-form, rounded at the apex: leaves scattered, lance-linear, mucronate: stems tall, numerous. R. Canada.

rig'idum, (W. y.) divisions of the calyx ovate, acuminate, 3-nerved, ciliate: petals oblong, narrow: leaves stiffly erect, linear, short. 6 i. B. Missouri.

Exotic.

usitatissimum, (flax. b. Ju. ☉.) leafets of the calyx ovate, acute, 3-nerved: petals crenate: leaves lanceolate, alternate: stem sub-solitary.

Liparis, MALAXIS

19—13. LIQUIDAM'BAR. 51. 99.

sty'raciflu'a, (sweet gum. W. M. ♄.) leaves palmate, with acuminate

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Lindernia. In honor of Francis Balthazer Von Lindern, a physician and botanist of Strasburg.

Linnaea. In honor of Linneus, the great Swedish Botanist.

Linum. Gr. *linon*, flax, from *lineo*, to hold, the fibres being well known for their tenacity. Llin, in Celtic, signifies thread.

Liquidambar. Lat. *liquidum*, fluid, and *ambar*, fragrant gum, alluding to the aromatic gum which exudes from the tree.

(1) Pyxidaria, Ph. Gratiola inequalis, Wr.

lobes, serrate, villose at the meeting of the veins beneath. *S. T. Y. P. N. F. M.*

12—13. LI'RIODEN'DRON. 52. 75.

tu'lipife'ra, (white wood, tulip tree. W. y. r. J. ♄.) leaves truncate at the end, with 2 side lobes. A beautiful flowering tree. 90—150 f. *S.* F. T. Y. C. P. O. N. D.

5—1. LISIAN'THUS. 47. 46.

glaucifolius, Jn? (W. y.) stem herbaceous, terete: leaves oblong-ovate, sessile, glaucous, acute, 3-nerved: flowers terminal, corymbed: peduncles elongated. T. & J.

18—1. LISTE'RA. 7. 21.

convallaroides, (1) (lily orchis. g-p. M. 2f.) stem with two round cordate, acute, opposite leaves: spike few-flowered: lip oblong, obtusely 2-lobed: germ sub-globose: root fibrous. 4—6 i. *S.* H. T. Catskill Mts.

cordata, Mx. (2) (g-p. M. 2f.) stem with two opposite, roundish-cordate leaves: raceme loose: column without any appendage behind: lip elongated, 2-toothed at the base, deeply bifid: segments sub-divaricate and acute. 4—8 i. N.

Southern.

pubescens, Ph. (3) (g-w. J. 2f.) leaves radical, ovate, acute: scape leafless, pubescent, lax-flowered: flowers pedicelled: lip 2-lobed, scarcely longer than the connivent petals: capsules clavate: root palmate.

5—1. LI'THOSPER'MUM. 41. 43.

arvense, (steen-crout, stone-seed, wheat-thief. O. w. M. ☉.) stem erect, branched: leaves lance-linear, rather acute, (lower ones obtuse,) veinless, hairy: calyx nearly as long as the corol; segments spreading: seeds rugose 8—15 i. *S.*

officinale,* (gromwell. y. M. 2f.) stem erect, much branched: leaves lanceolate, acute, nerved, scabrous above, hairy beneath: calyx as long as the tube of the corol: seeds smooth. 2 f. B. P. T. O. N.

Liriodendron. Gr. *leirion*, lily, and *dendron*, tree, from the beauty of the flower.

Lisianthus. Gr. *lis*, smooth, and *anthos*, flower; or from Gr. *lusis*, dissolution, from its dissolving powers.

Listera. In honor of Martin Lister, an English physician and physiologist.

Lithospermum. Gr. *lithos*, stone, and *sperma*, seed: the seeds being very hard, and shining like little pebbles.

(1) Epipactis, Sz. (2) Ophrys, Mx. (3) Epipactis, Ph.

*This species and the latifolium Mx. are considered synonymous by Dr. Aikin, who gives the following description. Stem erect, branching, scabrous; leaves lance-ovate, acute, nerved, scabrous above, hairy beneath: fruit bearing calyx elongated, spreading: seeds 1—3 ovate, glabrous, often with hollowed punctures. 20—30 i. When this plant grows in rich shady woods the leaves are very broad.

maritimum, (1) (L. b. Ju. 2ſ.) very smooth: stem procumbent, branched: leaves oval-spatulate, fleshy: corol scarcely twice the length of the calyx.

denticulatum, Rs. (2) (p. J. 2ſ.) stem erect: leaves nerved, sub-glabrous, acute; margin scabrous, with minute teeth; radical ones ovate; cauline ones oblong: divisions of the calyx denticulate on the margin. 6—12 i.

latifolium, Mx. (W. y. Ju. 2ſ.) seed turgid, ovate, shining, with hollowed punctures: fruit-bearing calyx spreading, exceeding the corol: leaves ovate-oblong, nerved. P. T. O.

pilosum, N. (y. 2ſ.) simple, pilose-hirsute: leaves linear, acuminate, sessile, approximate: flowers fascicled, sessile, smallish: divisions of the corol oblong, entire. R.

torreyi, N. (3) (J. 2ſ.) strigose-hispid: leaves oblong-linear, obtusish, scattered: stem low, branching: fascicles terminal few-flowered: lobes of the corol oblong, entire. 9 i. R.

Southern.

angustifolium, Mx. (W. w. Ju. ☼.) seed turgidly ovate, shining, with hollow punctures on every part: flowers generally lateral; leaves linear, with close-pressed pubescence: stem procumbent.

apulum, W. (W. y. Ju. ☼.) seed muricate: spikes terminal, one-sided: bracts lanceolate: leaves lance-linear acute.

Lithospermum, BATSCHIA.

5—1. LOBE'LIA. 29. 52.

dortmanna, (4) (water lobelia. b. Ju. 2ſ.) radical leaves linear, recurved, fistulous, with two cavities, entire: scape simple, racemose, somewhat naked: flowers remote, peduncled. *S.* T. Y. B. N.

cardinalis, (cardinal flower. O. r. w. Ju. 2ſ.) erect, simple, pubescent: leaves lance-ovate, acuminate, denticulate: racemes somewhat one-sided, many-flowered: stamens longer than the corols. var. *alba*, flowers white. Goderich, U. C. Damp. 1—2 f. *S.*

siphilitica, (W. b. Ju. 2ſ.) erect, simple, hirsute, with short hairs: leaves lance-ovate, sub-serrate: raceme leafy: calyx hirsute, with reflexed sinuses. 18—24 i. *S.* T. Y. W. V. P. C. D. F. O. N.

inflata, * (wild tobacco. O. b. Ju. ♂.) erect, branching, very hirsute: leaves ovate, serrate: racemes leafy: capsules inflated. 12—18 i. *S.*

kalmii, (O. b. Ju. ☼.) slender, erect, sub-simple: radical leaves spatulate: cauline ones linear, delicately toothed: flowers racemed, alternate, remote, pedicelled. Var. *gracilis*, has a minutely scabrous stem: peduncles shorter than the flowers; segments of the calyx longer than the capsule. 6—24 i. *S.*

claytoniana, Mx. (5) (O. b. Ju. 2ſ.) erect, simple, sub-pubescent: leaves oblong, obtusish: radical ones entire; cauline ones denticulate above: raceme wand-like: bracts subulate. 18—24 i. *S.*

Lobelia. In honor of M. de Lobel, a distinguished German botanist. (1) Pulmonaria, L. parviflora, Ph. (2) Pulmonaria, Rs. sibirica, Ph. (3) L. decumbens, Y. (4) paludosa, N. (5) spicata, Lk. goodenioides, W. pallida, M.

*This species was formerly considered annual, but the error has been shown by Dr. Coffin of Troy.

puberula, Mx. (W. b. Ju. 2ℓ.) erect, very simple, pubescent: leaves oblong-oval, repand-serrulate: flowers spiked, alternate, sub-sessile: germs hispid: calyx ciliate. 2 f. *S.* P. Charleston, S. C.

Southern.

aphylla, N. (2ℓ.) very small: stem filiform, sub-simple, scaly: peduncles remote, elongated. 4—6 i. Florida.

amoe'na, Mx. (b. Ju. 2ℓ.) erect, very glabrous, (pubescent, E.) leaves broad-lanceolate, serrate: spike many-flowered, one-sided: divisions of the calyx entire: inferior divisions of the corol oval, acute. 2—3 f.

glandulosa, Wr. (b. S. 2ℓ.) stem erect: leaves lance-linear, somewhat fleshy, denticulate; segments of the calyx denticulate: flowers in racemes. 1—2 f.

fulgens, Donn. (W. r. Ju. 2ℓ.) erect, simple, sub-pubescent; leaves very long-lanceolate, attenuated, sub-entire: raceme many-flowered: stamens and pistils as long as the corol. 2—4 f.

michauxii, N. (1) (p. Ju. ☉.) glabrous, branching above: leaves petioled, ovate, crenate-dentate: lowest ones roundish; racemes lax: peduncles elongated.

3—2. Lo'lium. 4. 10.

perenne, (darnel. M. 2ℓ.) florets much longer than the calyx, unarmed, linear-oblong, compressed. Introduced. 18 i. B. P. C. M. N.

temulentum, (Ju. ☉.) florets shorter than the calyx, as long as the bristle at their extremity: culm scabrous above. 2 f. P.

5—1. Loni'ce'ra. (2) 48. 58.

hirsuta, Ea. (rough woodbine. y. J. ♄.) corol ringent, hairy: filaments bearded: leaves hirsute, abruptly acuminate: lower ones obovate; upper ones connate, (ovate, oval. and obovate.) Flowers in whorled spikes, large: leaves ciliate, all very hairy. Stem twining around trees to the height of 20 to 30 feet. This species is remarkably different from all other species of the genus; being very rough and hairy. Found first two miles west of Williams College, Mass. where I saw hundreds in flower, climbing the trees and shrubs of an elevated ridge or hill, in the summer of 1817. It has since been found in Middlebury, Vt., Worcester, Mass., Troy and Fairfield, N. Y.* See Boston Flora, p. 88. 2d ed. D. V.

flava, Sims. (3) (W. y. J. ♄.) spikes with whorled heads: corol subringent-like, with divisions oblong, obtuse: leaves ovate, glaucous beneath, with cartilaginous margins; upper ones connate-perfoliate. *S.* Catskill Mt.

Lolium. Lat. *lolium*. *Loloa* is the Celtic name of this grass.

Lonicera. To commemorate Adam Lonicer, a physician of Frankfort, in the sixteenth century.

(1) cliffortiana, Mx. not L. (2) Caprifolium, J. (3) fraseri, Ph.

*I published this species in the Manual in the year 1818, and repeated it in the succeeding editions. Afterwards Goldie came to this state, and also travelled in Canada, where he found it, and examined it with my Manual. In 1822 he published it as a new discovery, under the name *pubescens*, in the Edinburgh Phil. Journal.

parviflora, Lk. (1) (W. r-y. J. ♄.) spikes with whorled heads: corol ringent, gibbous at the base: filaments bearded: leaves deciduous, glaucous beneath, connate; floral ones perfoliate. *S. T. N.*

grata, A. (r. y. J. ♄.) spike with whorls very near each other: corol ringent-like, with a long tube: leaves perennial, obovate, sub-mucronate, net-veined and paler beneath: upper ones connate-perfoliate. *S.* Y. C.

sempervirens, A. (r. y. M. ♄.) spikes with distant, nakedish whorls: corols sub-equal; tube ventricose above: leaves ovate and obovate, glaucous beneath; upper ones connate-perfoliate. Leaves perennial. *S.* Y. P. C. D. Florida.

douglasii, (W. ♄.) branches twining: leaves oval acute at both ends, petioled, glabrous, ciliate, downy outside, upper ones connate: flowers head-spiked; stigma exsert.

Exotic.

caprifolium, (honeysuckle. ♄.) corols ringent-like, terminal: sessile leaves connate-perfoliate at the top.

periclymenum, (woodbine. J. ♄.) flowers in ovate, imbricate, terminal heads: leaves all distinct. Var. *quercifolia*, leaves sinuate.

Southern.

ciliosum, Ph. (W. y. J. ♄.) spikes with whorled, approximate heads, sub-sessile: corol sub-equal: tube hirsute, ventricose in the middle: leaves somewhat clasping, sessile and petioled, ovate, glaucous beneath; margin distinctly ciliate; upper ones connate-perfoliate.

Lonicera, DIERVILLA, XYLOSTEUM.

Lopanthus, HYSSOPUS.

Lophiolia, CONOSTYLIS.

Lotus, TRIGONELLA.

4—1. LUDWIG'IA. 17. 88.

alternifolia, (2) (seed box. O. y. Ju. 2ſ.) erect, branching, sub-glabrous: leaves alternate, lanceolate, hoary beneath: peduncles axillary, 1-flowered: capsules 4-sided: divisions of the calyx large, colored, persistent. 1—3 f. *S.*

pilosa, Wr. (3) (y. Ju. 2ſ.) erect, branching, hirsute: leaves alternate, oblong, sessile, hirsute both sides: peduncles 1-flowered, axillary: capsules globose, quadrangular, winged, 2-bracted at the base. 2 f. *S.* Y.

uniflora, R. ( ) stem straight, simple: leaves alternate, lanceolate, acute, glabrous: flower terminal: petals longer than the calyx. Probably *alternifolia*. Torrey.

Southern.

mollis, Mx. (Au. 2ſ.) villous: stem erect, much branched: leaves lanceolate: flowers generally clustered: capsule globose, 2-leaved.

Ludwigia. In honor of Ludwig, Prof. of Medicine at Leipsic, 1733.
(1) dioica & media, L. Caprifolium bracteosum, Mx. (2) macrocarpa, Mx. ramosissima, Wr. Rhexia linarifolia, Poir. (3) hirsuta, Ph.

capitata, Mx. (1) (y. Au. 2f.) stem erect, virgate: leaves lance-linear, glabrous: flowers generally in terminal heads: bracts longer than the calyx.

pedunculosa, Mx. (y. J. 2f.) stem procumbent, radicant: leaves opposite, lanceolate; peduncles 1-flowered, longer than the leaves. 3—6 i.

linearis, Wr. (2) (y. Au. 2f.) stem erect, branching, angled near the summit: leaves alternate, linear, glabrous, sub-serrulate: flowers axillary, solitary, sessile. 2 f.

decurrens, Wr. (3) (W. y. Au. ☺.) erect, very branching, glabrous: leaves alternate, lance-oval, decurrent: flowers octandrous. 2 f. Charleston, S. C.

natans, E. (y. Ju.) swimming and creeping: leaves opposite, lance-spatulate: flowers axillary, sessile: petals as long as the calyx. Charleston, S. C.

Ludwigia, ISNARDIA.

14—1. LUNA'RIA. 39. 63.

Exotic.

annua, (honesty. p. ♂.) leaves obtusely toothed: silicles oval obtuse at both ends. Naturalized.

redivica, (satin flower. b-p. 2f.) leaves with mucronate teeth: silicles tapering to both ends. Flowers odorous.

16—10. LUPINAS'TER. 32. 93.

Southern.

macrocephalus, Ph. (4) (W. y. & p. M. 2f.) leafets nine, oblanceolate: petioles very long: stipules wedge-form, gash-3-toothed: teeth of the calyx filiform, plumose.

16—10. LUPI'NUS. 32. 93.

perennis, (wild lupine. O. b. r-y. M. 2f.) stem and leaves smoothish: leaves digitate, with about 8 to 10 leafets, which are oblanceolate, obtusish: flowers alternate, calyx not appendaged: banner emarginate, keel entire. 12—18 i. *S.*

nootkatensis, Donn. (W. Ju. 2f.) stem and leaves hirsute: leaves digitate; leafets (7—8) lanceolate, obtuse: calyxes whorled, not appendaged: banner emarginate: keel entire.

decumbens, T. & J. (W. p.) suffruticose, sub-decumbent: flowers pedicelled, somewhat whorled, bracted: calyx silky-hirsute: banner and keel entire: leafets lance-oblong, acute and obtuse, silky beneath.

lepidus, Lind. (2f.) herbaceous: flowers alternate; pedicels with-

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Lunaria. Lat. *luna*, moon, in allusion to the broad, round, silvery silicles.

Lupinaster. That is to say, *Lupine-like.*

Lupinus. Lat. *lupus*, a wolf: because this plant ravages the soil by overrunning it after the manner of this animal.

(1) suffruticosa, Wr. (2) angustifolia, Mx. (3) Jussiæa, Dc. (4) Trifolium megacephalum, Hk.

out bracts: upper lip of the villose calyx, 2-parted, lower one acuminate, long: leafets 5—7-lanceolate, both sides silky, flower-stem erect somewhat one-flowered. R.

minimus, Doug. (2ℓ.) herbaceous; dense, silky-pilose, small: stem 1—2-leaved; leafets 7—9, lanceolate acute, attenuate below; flowers alternate and verticillate; pedicels without bracts: upper lip of the calyx bifid at the apex; lower lip entire: root small sub-fusiform. 6—8 i. R.

polyphyllus, Lind. (w. b. 2ℓ.) herbaceous; tall; leafets 11—15 lanceolate, hirsute beneath: flowers alternate in a very long raceme, rarely sub-verticillate, bractless: pedicels longer than the deciduous, lanceolate bracts: both lips of the calyx entire; legumes very densely pilose. 3—4 f R.

sericeus, Ph. (W. r. p. Ju. 2ℓ.) stem and leaves silky-tomentose: leaves digitate; leafets (7—8) lanceolate, acute, silky both sides: calyxes somewhat whorled, not appendaged: banner gashed: keel entire.

ornatus, Doug. (2ℓ.) flowers verticillate with a small appendage; upper lip of the calyx bifid; lower lip entire, long: leafets 7—12, lance-linear, both sides silvery tomentose: legumes 4—5 seeded. R.

arbustus, Doug. (2ℓ.) flowers alternate, pedicelled, bracted: upper lip of the calyx bifid: lower lip entire, acute: leafets 7—13 obovate-oblong, silky both sides: legumes 3—5 seeded. A. R.

laxiflorus, Lind. (2ℓ.) herbaceous; on all sides pilose: flowers subalternate, bractless; upper lip of the calyx entire saccate at the base: lower lip longer, ovate-acuminate; keel beardless, banner ob-cordate: leafets 7—9 lance-linear; stipules very small subulate. A variety has the leafets linear, and calyx less saccate at the base. R.

littoralis, Doug. (2ℓ.) flowers verticillate, pedicelled, bractless; both lips of the calyx entire: leafets 5—7, linear-spatulate silky both sides: legumes 10—12-seeded, transversely sulcate: roots granulated. R.

albicaulis, Doug. (2ℓ.) tall: leaves numerous; leaves and stem minutely silky-pubescent, pubescence becoming somewhat tawny: leafets 7—9, lance-spatulate, mucronate: flowers mostly verticillate, bractless: bracts when present subulate, sub-persistent, equalling the silky pedicels: calyx fulvous-silky, both lips entire. R.

aridus, Doug. (p. 2ℓ.) herbaceous, silky-hirsute: flowers verticillate, pedicelled, bracted: upper lip of calyx bifid, lower one entire: leafets 5—9 lance-linear, villose, stipules subulate. R.

leucophyllus, Lind. (2ℓ.) herbaceous, very villose: flowers alternate pedicelled, bracted: upper lip of the calyx bifid: lower lip entire: leaves digitate: leafets 7—9-lance-oblong: stipules subulate, woolly. R.

plumosus, Doug. (2ℓ.) silky-villose: flowers alternate, shortly pedicelled, bracted; upper lip of the calyx bifid; lower one entire: leafets 5—7-lanceolate: legume glabrous, 3—5-seeded: bracts longer than the flowers, villose, deciduous. North California. R.

sabinii, Doug. (y. 2ℓ. ♄?) erect, high: stem a little glabrous, striate: leaves with the hairs short, fulvous silky: leafets 9—11 lanceolate, acuminate, attenuated to the base: flowers whorled, bractless; bracts if present, long, subulate, silky, deciduous; calyx very pilose, base gibbous; upper lip short-bifid; lower lip entire, reflexed; pedicels long;

legumes silky-villose, fulvous, somewhat 4-seeded, terminated with the persistent style. R.

sulphureus, Doug. (y. 2f.) erect: stem angular-sulcate, with scattered, silky leaves: leafets 12—14 narrow, lanceolate, base and apex acuminate: bracts subulate, deciduous: flowers verticillate, bractless: calyx very silky, sub-gibbose at the base; upper lip sub-bifid, lower one longer, entire. A. R.

bicolor, Lind. (w. b. p. ☉.) stem branching, procumbent, leafy: stem and leaves pilose, scarcely silky: leafets 5—7 linear-spatulate: whorls few-flowered: calyx silk-woolly, without appendage; upper lip bifid, lower lip long entire: wings longer than the banner: legumes many-seeded. R.

micranthus, Doug. (p. ☉.) flowers sub-verticillate, sessile, bracted: upper lip of the calyx bifid, lower one entire: leafets 5—7-linear-spatulate, ciliate: legumes 6-seeded, transversely sulcate: stem ramose: root granulated. R.

pusillus, Ph. (W. b. J. ☉. or ♂.) small and very hirsute: leaves digitate: leafets (5—7) wedge oblong, glabrous above: calyxes alternate, not appendaged: banner 2-parted: keel entire: legume about 2-seeded. 4—6 i.

Exotic.

albus, (white lupine. w. Au. ☉.) calyxes not appendaged, alternate: banner entire, keel 3-toothed.

hirsutus, (garden lupine. b. ☉.) calyxes appendaged, alternate; banner 2-parted; keel 3-toothed.

pilosus, (rose lupine. r. w. ☉.) calyxes appendaged, whorled: banner 2-parted: keel entire.

luteus, (yellow lupine. y. ☉.) calyxes appendaged, whorled: banner 2-parted: keel 3-toothed.

Southern.

villosus, (hairy lupine. w. r. p. J. 2f.) very villose; leaves simple oblong: calyxes not appendaged, alternate in a long spike: banner 2-cleft; keel entire, long. Florida.

diffusus, N. (Ap. 2f.) villose, silky; stems numerous, diffuse, decumbent: leaves simple, oblong, obovate: petioles and stipules short, naked.

argenteus, Ph. (W. y-w. Ju. 2f.) leaves digitate; leafets (5—7) lance-linear, acute, glabrous above, silvery-silky beneath: calyxes alternate, not appendaged: banner obtuse: keel entire.

6—1. Lu'zula. (1) 5. 13.

pilosa, (O. M. 2f.) leaves hairy: panicle sub-cymose: peduncles 1-flowered, reflexed: leafets of the calyx acuminate, rather shorter than the obtuse capsule. 6 i.

campestris, (O. M. 2f.) leaves hairy: spikes sessile and peduncled: leafets of the calyx acuminate, longer than the obtuse capsule. 1 f. S.

melanocarpa, Mx. (W. Ju.) culm leafy: leaves sub-lanceolate, smooth:

Luzula. These plants were called by the old botanists *Gramen Luzulæ*.

(1) Juncus, L. & Mx.

panicles capillary, loose: flowers distinctly pedicelled: capsules black. White Mts.

spicata, W. (Au.) leaves narrow, hairy at the throat: spike nodding, compound: leafets of the calyx acuminate-awned, about as long as the roundish capsule. 8 i. White Mts.

10—5. LYCH'NIS. 22. 82.

apetala, (A. 2ℓ.) calyx inflated: corol shorter than the calyx: stem about 1-flowered. R. Canada.

alpina, W. (r. 2ℓ.) glabrous: flowers in dense umbelled heads: petals 2-cleft: styles 4. Labrador. Canada.

Exotic.

chalcedonica, (scarlet lichnis. r. J. 2ℓ.) flowers fascicled, level-top, or convex.

viscaria, (clammy lichnis. 2ℓ.) stem geniculate, viscous: petals entire: capsule 5-celled.

flos-cuculi, (ragged robin. 2ℓ.) petals torn: capsule 1-celled, roundish.

4—1. LY'CIUM. 28. 38.

Exotic.

barbarum, (matrimony vine. r. y. J. ♄.) stem angled: branches erect: leaves lanceolate, tapering to both ends: calyx mostly 3-cleft.

Southern.

carolinianum, Wr. (L. p. Ju. ♄.) unarmed: leaves clustered, narrow wedge-form, fleshy: flowers 4-cleft, tetrandrous. 3—5 f.

21—1. LYCOPO'DIUM. 55. 5.

1. *Spikes peduncled.*

clavatum, (club-moss. O. g. Ju.) stem creeping: branches ascending: leaves scattered, incurve-bristle-bearing, serrate: spikes in pairs or single, peduncled, cylindric: scales ovate, acuminate, erose-dentate. Woods.

complanatum, (ground-pine. W. g-y. Ju. 2ℓ.) creeping, erectish: branches alternate, dichotomous: leaves bifareous, connate, spreading at the tips: spikes in pairs, peduncled. Woods. *S.* B. C. O. T.

carolinianum, W. (W. Ju. 2ℓ.) stem creeping: leaves somewhat 2-ranked, spreading, lanceolate: peduncles erect, solitary, elongated, 1-spiked: bracts sub-lanceolate. *S.* P. Y. B. C.

sabinaefolium, W. (1) (W. Ju. 2ℓ.) stem erect: branches alternate, di-

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Lychnis. Gr. *luchnos*, a lamp or lanthorn; either so called because its leaves were used as wicks, or from the resemblance of the calyx to a lanthorn

Lycium. Gr. *Lukion*. So called, it is supposed, from Lycia its native country.

Lycopodium. Gr. *lukos*, wolf, and *pous (podos)* the foot, from the incurved ends of the branches; or because the root was compared to a wolf's foot.

(1) alpinum, Mx.

chotomous: leaves lanceolate, acute, pointing 4-ways, appressed, convex: peduncles solitary, 1-spiked: spikes terete: scales sub-cordate, acuminate.

2. *Spikes sessile: leaves surrounding the stem.*

dendroideum, Mx. (tree-weed. W. g. Ju. 2ſ.) erect: branches erect: leaves in six equal rows: spikes solitary, numerous. Woods. *S.* B. C. K.

obscurum, (Ju. 2ſ.) erect: branches spreading: leaves in six unequal rows: spikes one or few, solitary. B. C.

annotinum, W. (running ground-pine. W. Ju. 2ſ.) stem creeping: branches twice 2-parted, ascending: leaves pointing 6 ways, lance-linear, mucronate, spreading and serrulate near the tips: spike solitary, terminal. P. Canada.

inundatum, W. (Ju. 2ſ.) stem creeping, sub-ramose; branches simple, solitary, erect, 1-spiked at the top: spike leafy: leaves linear, scattered, acute, entire, curved above. Y. C.

alopecuroides, W. (Ju. 2ſ.) stem creeping, sub-ramose: branches simple, long ascending, 1-spiked at the top: leaves linear-subulate, ciliate-toothed at the base, spreading: spike leafy. *S.* Y. P.

salaginoides, W. (Ju. 2ſ.) stem creeping: branches simple, ascending: leaves scattered, lanceolate, spreading, ciliate-toothed: spikes solitary, terminal, leafy. *S.* Y. P.

rupestre, (festoon pine. Ju. 2ſ.) stem creeping, branching; branches sub-divided, ascending: leaves scattered, lance-linear, ciliate, with hairs at the apex: spikes solitary, terminal. Rocks and gravelly banks. T. Y. N. P. B.

3. *Spikes sessile: leaves 2-ranked.*

albidulum, W. (Au. 2ſ.) leaves ovate, acute, denticulate, alternate, close-pressed: spikes terminal, long, 4-sided. *S.* P.

apodum, W. (Ju. 2ſ.) leaves round-ovate, acute, flat, denticulate with superficial alternating points: stem branching, rooting near the base: spikes terminal, sub-solitary. P. Y.

4. *Capsules axillary.*

lucid'ulum, Mx. (1) (moon-fruit pine. M. y. 2ſ.) stems assurgent, with a few longish branches: leaves spreading, shining, lance-linear, serrate, about in 8 rows. C. B. T. W. N. V.

celago, (A.) leaves scattered, entire, lanceolate, awnless, in 8 equal rows: stems dichotomous, erect, fastigiate. White Mts.

Southern.

tristachymum, Ph. (A. Ju. 2ſ.) stems erect, branches alternate, dichotomous, sub-compressed: leaves lanceolate, acute, appressed, pointing 4 ways: peduncles solitary, elongated, 3-spiked, spikes terete: scales roundish, acuminate.

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(1) reflexum, Sh.

5—1. Lycop'sis. 41. 43.

arvensis, (wild buglos. W. b. Ju. ☺.) hispid: leaves lanceolate, repand-toothed: racemes in pairs: flowers sessile. Probably introduced. *S.* B. C. N.

virginica, (w. J. ☺.) small, hispid: lower leaves spatulate; upper ones linear-oblong, entire: racemes solitary: flowers peduncled. *S.* B.

2—1. Lyco'pus. 42. 42.

europæus, (1) (water horehound. W. w. Ju. 2ℓ.) lower leaves gashed; upper ones lanceolate, serrate: calyx acuminate-spined. Flowers small, whorled. Damp. 1—3 f. *S.* T. Y. P. C. V. B. N. F. O.

virginicus, (bugle weed. W. w. J. 2ℓ.) leaves broad-lanceolate, serrate, at the base narrowed and entire: calyx very short, spineless. Var. *quercifolius*, leaves sinuate-pinnatifid. Damp. 2 f. *S.* C. B. T. D. F. O. N.

uniflorus, Mx. (2) (w. J. 2ℓ.) leaves lanceolate, sub-serrate, glabrous: suckers procumbent. A low plant, with flowers mostly solitary. Canada.

obtusifolius, Vahl. (2ℓ.) leaves lanceolate, remotely and obtusely serrate. Hudson's Bay.

17—1. Lygodes'mia. 49. 53.

juncea, Don. (3) (2ℓ.) stem very branching, striate: leaves linear-subulate: hairs of the pappus very numerous, scabrous. R.

minor, H. (2ℓ.) stem very branching, obscurely striate: leaves linear-subulate, short: hairs of the pappus about 16, plumose. 10—24 i. R.

Lygodesmia, Prenanthes.

21—1. Lygo'dium. 55. 5.

palmatum, Sz. (4) (climbing fern. g-y. Au. 2ℓ.) stem climbing, leaves palmate, 5-lobed; divisions lanceolate, obtuse: spikelets terminal, compound paniceled. 3—4 f. S. Granby, Amherst, Mass. Near Camden, N. J. McNab.

Lyonia, Andromeda, Cynanchum.

5—1. Lysima'chia. 20. 35.

stricta, A. (5) (loose strife. O. y. Ju. 2ℓ.) raceme terminal, very long,

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Lycopsis. Gr. *lukopsis*, from *lukos*, wolf, and *ops*, the eye; the small blue flowers having been compared to a wolf's eye.

Lycopus. Gr. *lukos*, wolf, and *pous*, foot; so named on account of a fancied resemblance between the cut leaves and a wolf's foot.

Lygodesmia. Gr. *lugodes*, pliant, *mia*, one, or meivo, to diminish. Sed quere.

Lygodium. Gr. *lugodes*, pliant, flexible, slender; from the habit of this elegant genus of climbing ferns.

Lysimachia. Named either after Lysimachus, a general of Alexander, or a king of Sicily, or from Gr. *lusis maches*, answering loose strife.

(1) angustifolius and sinuatus, E. exaltatus, Ph. vulgaris, P. americanus, M. (2) pumilus, Vahl. (3) Prenanthes juncea, Ph. (4) Hydroglossum, W. Ophioglossum, L. Cteisium paniculatum, Mx. (5) bulbifera, C. racemosa, Lk.

lax: leaves opposite, or in threes, lanceolate, sessile: petals lanceolate, spreading. 1—2 f. *S.*

thyrsiflora, (1) (O. y. J. 2*f*.) stem simple, smooth: leaves sessile, lanceolate, opposite, acute, paler beneath; racemes lateral, long peduncled. Flowers small—appearance unlike the rest of the genus. 12—18 i.

quadrifolia, (2) (O. y. J. 2*f*.) pubescent: leaves sub-sessile, oval, acuminate, punctate, whorled, or in nearly opposite pairs, with axillary, 1-flowered peduncles: divisions of the corol oval, entire. Leaves vary from opposite, to seven in a whorl. 12—18 i. *S.*

ciliata, (money wort. O. y. J. 2*f*.) sub-pubescent: leaves opposite, long-petioled, sub-cordate-oval; petioles ciliate: pedicels somewhat in pairs: flowers nodding. 2—4 f. *S.*

hybrida, Mx. (3) (W. y. J. 2*f*.) glabrous: leaves opposite, petioled, lanceolate, acute at both ends; petioles ciliate: flowers nodding: corol shorter than the calyx; divisions crenulate. P. Y. B. Niagara Falls.

revoluta, N. (W. y. J. 2*f*.) smooth: stem 4-sided, simple: leaves linear, sessile, tapering to both ends; margin revolute: peduncles solitary: divisions of the calyx lanceolate, very acute: segments of the corol round-oval, abruptly acuminate. 6—18 i. D.

quadriflora, Sims. (4) (W. 2*f*.) branching: stem smooth: leaves sessile, opposite, very long linear: peduncles in fours, sub-terminal, 1-flowered. 2—3 f. *S.*

Southern.

herbemon'ti, E. (2*f*.) flowers in terminal racemes: lower ones whorled: upper ones scattered: leaves in fours, lance-ovate, sessile, 3-nerved. 2 f.

lanceolata, Ph, (2*f*.) very glabrous, erect, simple: leaves in fours: sub-petioled, lanceolate, prominently acuminate: peduncles in fours, many-flowered: upper flowers racemed: divisions of the corol ovate, acute.

heterophylla, Mx. (W. Ju. 2*f*.) stem erect, glabrous, branching: lower leaves roundish; upper ones linear, sessile: flowers axillary, nodding: peduncles shorter than the leaves. 12—18 i.

angustifolia, Mx. (y. 2*f*.) very glabrous: branching: leaves opposite and whorled, long-linear, punctate: racemes terminal, short: divisions of the corol oblong.

11—1. LY'THRUM. 17. 91.

salicaria, var. *pubescens*, Ph. (milk willow-herb. p. Ju. 2*f*.) pubescent: leaves opposite and in threes, sessile, lanceolate, cordate at the base: flowers terminal, whorled-spiked: capsules oblong: stamens 12. 2 f. Canada.

verticillatum, (5) swamp willow-herb, grass poley. W. p. Au. 2*f*.) pubescent: leaves opposite, or in threes, lanceolate, petioled: flowers

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Lythrum. Gr. *luthron*, clotted blood, from the deep purple flowers.
(1) capitata, Ph. (2) heterophylla. N. angustifolia. W. (3) hirsuta, Mx. punctata, Wr. (4) longifolia, Ph. (5) Anonymus aquatica, Wr. Decodon aquaticum, Gmel. verticillatum, E.

axillary, somewhat in whorls: fruit globose: stamens 10. Wet. 2 f. S. T. N.

hyssopifolium, N. (dwarf grass poley. W. w. p. 2[.) leaves alternate and opposite, lance-linear and sub-oval: flowers solitary, axillary. Hexandrous. 6—10 i. C. St. Clair. Detroit.

Southern.

virgatum, W. (1) (W. p. Ju. 2[.) leaves opposite, lanceolate, glabrous: stem panicled: flowers axillary, in threes, pedicelled: stamens 12.

alatum, Ph. (W. p. Ju. 2[.) very glabrous: stem winged: leaves opposite and alternate, closely sessile, sub-cordate, ovate-oblong: flowers hexandrous, axillary, solitary, sessile. 2—3 f. Marshes.

lineare, W. (w. Ju. 2[.) glabrous, virgate-panicled: leaves linear, somewhat opposite: flowers axillary, solitary, hexandrous. 3—4 f.

M.

13—1. MACBRI'DEA. 42. 42.

Southern.

pulchra, E. (p. & w. Au. 2[.) stem erect, simple: leaves opposite, lanceolate, acute, serrulate, punctate, ciliate, glabrous beneath, somewhat hairy above; upper ones sessile; lower ones attenuated at the base as if petioled. 12—18 i.

20—4. MACLU'RA. 53. 98.

Southern.

aurantiacea, N. (W. ♄.) leaves petioled, oval, acuminate, very entire, sub-mucronate, smooth and shining above; petiole and nerves minutely hirsute, pubescent beneath: fruit axillary, sub-sessile, surface verrucose. 20—30 f.

14—2. MACROPO'DIUM. 39. 63.

laciniatum, H. (w. ☉.) leaves all petioled, laciniate-pinnatifid: flowers pedicelled; petals narrow-linear. R.

Macropodium, CARDAMINE.

12—1. MACRO'TRYS, R. 26. 61.

racemosa, (2) (bug-bane, black snake-root, cohosh. W. w. Ju. 2[.) leaves decompound; leafets oblong-ovate, gash-toothed: racemes in wand-like spikes: capsules ovate. Woods. 3—9 f. S. Y. O. C. P. D. E. Hudson.

foetida, W. (W. Ju. 2[.) leaves decompound; leafets ovate, gash-tooth-

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Macbridea. In honor of Dr. Wm. Macbride, of Charleston S. C.

Maclura. In honor of Wm. Maclure, the President of the Am. Geo. Soc.

Macropodium. Gr. *makros*, large, *pous*, *podos*, foot; from the large pedicel of the silique.

Macrotrys. Gr. *makros*, large, and *botrus*, bunch or raceme, in allusion to its fructification. This genus has generally been spelled Macrotys which is incorrect. Tully.

(1) lanceolatum, E. (2) Cimicifuga serpentaria, Ph. Actæa, L.

ed; teeth acute: raceme panicled, nodding: styles 5: capsule ovate, uncinate.

17—2. MAD'IA. 49. 55.

viscosa, H. ( ) flowers axillary solitary, with many florets: rays conspicuous. A var. has the flowers subsessile: rays small. Another var. has the flowers mostly pedicelled: rays large. R.

glomerata, H. ( ) flowers (2—4) glomerate, with few florets, disposed in a terminal corymb: rays obsolete. R.

12—13. MAGNO'LIA. 52. 75.

glauca, (beaver tree, swamp laurel. W. w. J. ♄.) leaves oval, glaucous beneath: petals obovate, tapering to the base. Var. *latifolia*, has obtusish, deciduous leaves. Var. *longifolia*, has perennial leaves acute at both ends. *S.* P. Y. B. Baltimore. Florida.

acuminata, Mx. (cucumber tree W. b-y. J. ♄.) leaves oval, acuminate, pubescent beneath: petals obovate, obtusish. 70 f. *S.* P. D. O.

tripetali, W. (1) (umbrella tree. W. w. J. ♄.) leaves large, wedge-obovate, acute; in the young state all over silky: petals 9, oval, acute; outer ones reflexed. 25—35 f. *S.* P.

Southern.

grandiflora, W. (big laurel, magnolia. W. w. M. ♄.) leaves evergreen, oval, thick, leathery: petals broad-obovate, abruptly narrowed into a claw. Var. *elliptica*, leaves oblong-oval, ferruginous beneath: flowers somewhat contracted. Var. *obovata*, leaves oblong-obovate: flowers expanded. Var. *lanceolata*, leaves oblong-lanceolate, curved at the apex, both sides colored alike: flowers somewhat contracted. 60—80 f. Florida.

macrophylla, Mx. (W. w. J. ♄.) branches fragile: leaves very large, oblong, sub-cuneate obovate, sinuate and auricled at the base, glaucous beneath: petals 6, ovate, obtuse. 30—35 f. Florida.

cordata, Mx. (W. A. y. M. ♄.) leaves broad-oval or lance-ovate, subcordate, sub-tomentose beneath: petals lance-oblong, acute. 20—40 f.

auriculata, W. (W. A. y-w. M. ♄.) leaves large, lance-obovate, acute, glaucous beneath, cordate and auricled at the base; lobes approximate: petals ovate, acute, sub-unguiculate. 30—40 f. Florida.

pyramidata, Bartram. (Ap. ♄.) leaves rhomb-oboval, abruptly acute, both sides colored alike, subcordate and auricled at the base: lobes divaricate: petals lanceolate, gradually acute.

Mahonia, BERBERIS.

Majanthemum, CONVALLARIA.

15—5. MALACHODEN'DRON. 37. 70.

Southern.

ovatum, (2) (w. M. ♄.) arborescent; leaves ovate, acute: flowers solitary, sub-sessile. 6—12 f.

Madia.

Magnolia. In honor of Peter Magnol, a Botanist of Montpelier.

Malachodendron. Gr. *malakē*, soft, and *dendron*, tree.

(1) umbrella, Lk. (2) Stuartia pentagyna.

18—1. MALAX'IS. 7. 21.

liliifolia,] (1) (twayblade. W. w. y. p. J. 2[.) leaves 2, lance-ovate or oval: scape 3-cornered: inner petals filiform, reflexed; 2-colored: lip concave, obovate, mucronate. This species is often mentioned as somewhat rare: but I have seen hundreds in flower at one time along the north side of Pine-rock, New-Haven. 4—8 i. S. C. T. F. N.

longifolia, B. (2) (W. y-g. J. 2[.) bulb roundish: scape 2-leaved: leaves broad-lanceolate, longer than the scape: spike oblong: lip cordate, concave, channelled, shorter than the petals. 3—7 i. T.

loeselii, (y.) leaves two, lance-ovate: scape 3-cornered: lip ovate, recurved at the apex. Damp. In New-England. Hitchcock.

Malaxis, MICROSTYLIS.

15—12. MAL'OPE. 37. 74.

Southern.

malacoides, (y. ☉.) leaves oblong, obtuse, entire, crenate, glabrous above: peduncles solitary, axillary. 12—18 i.

Malus, PYRUS.

15—13. MAL'VA. 37. 74.

americana, M. (rough mallows. y. J. ☉.) leaves ovate, acute, toothed, scabrous: flowers axillary, solitary, terminal, head-spiked. P.

rotundifolia, (low mallows. O. r. w. J. 2[.) leaves heart-orbicular, obsoletely 5-lobed: peduncles bearing the fruit declined: stem prostrate. Probably introduced.

rivularis, Doug. (r.) stem herbaceous, stellate-hairy: leaves a little scabrous, cordate, deeply 5 to 7-cleft; lobes acute: peduncles terminal and axillary, 6 to 8-flowered. Rocky Mt. and west.

hederacea, Doug. (r. 2[.) stem short, procumbent: peduncles axillary, 1-flowered: petals stellate-hairy. West of Rocky Mt.

Exotic.

sylvestris, (mallows r-b. J. ♂. and 2[.) stem erect: leaves about 7-lobed, acutish: peduncles and petioles hairy.

crispa, (curled mallows. Au. ☉.) stem erect: leaves angular: crisped: flowers axillary, glomerate.

moschata, (musk mallows. 2[.) stem erect: radical leaves reniform, gashed; cauline ones 5-parted, pinnate, many-cleft: leafets of the outer calyx linear. Naturalized.

virgata, (whip-stalk mallows. r. 2[. and ♄.) leaves deeply 3-lobed,

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Malaxis. Gr. *malakia*, softness, expressive of the delicacy and softness of these plants.

Malope. Supposed to be a corruption of *malache*, mallows.

Malva. As if *molva*, from Lat. *mollis*, soft, expressive of the softness of its leaves; or from the Gr. *malakē*, soft, in allusion to the soft mucilagenous qualities of the species.

(1) Ophrys, L. (2) correana, B.

toothed, wedge-form at the base: peduncles in pairs, longer than the petiole.

Southern.

abutiloides, (p. Ju. 2f.) leaves with 5 angular lobes, tomentose: peduncles 2-cleft, about 4-flowered, axillary: capsules many-seeded.

carolinıana, W. (r. Au. ☉.) leaves 5-lobed or palmate, gash-toothed: peduncles longer than the petioles: petals entire: fruit villose: stem prostrate. New Orleans. Florida.

triloba, (1) (♄.) leaves oblong, very obtusely 3-lobed, toothed, tomentose: peduncles axillary, longer than the petiole.

coccinea, N. (2) (W. r. Au. 2f.) all over hoary-tomentose, and strewed with stellate hairs: leaves 3—5-cleft; divisions gashed, acute; racemes terminal: stem diffuse.

triangulata, (3) (p. Ju.) hirsute, sub-decumbent: lower leaves triangular-cordate; upper ones 3—5-lobed, irregularly toothed: flowers racemed. 12—18 i.

16—12. MAL'VAVIS'CUS. 37. 74.

floridanus, N. (r. 2f?) pilose, hirsute, herbaceous: leaves cordate-ovate, crenate, obtusish, small, short-petioled: peduncles axillary, nodding, towards the end of the branches. Florida.

Mammillaria, CACTUS.

3—2. MANISU'RIS. 4. 10.

Southern.

granularis, (S. ☉?) calyx of the globose fertile floret verrucose, tesselated: stem erect, branching: sheaths hirsute. 2—3 f.

3—1. MAPA'NIA. 3. 9.

Southern.

sylvatica, (W. Ju. 2f.) culm at the base covered with imbricate, lanceolate leaves or scales.

3—1. MARIS'CUS. (4) 3. 9.

retrofractus, (Ju. 2f.) umbel simple; rays long: spikes obovate, imbricate backwards: spikelets subulate, at length bent backwards: involucre 3 leaved. 18 i. *S.* P. Y.

echinatus, (5) (hedge-hog club-rush. W. Ju. 2f.) umbel simple; rays

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Malvaviscus.

Manisuris. From *manis*, the scaly lizard, and *oura*, a tail; the appearance of its scaly spikes bearing an apt resemblance to the covering of that animal.

Mapania. Gr. *mapaino*, to become emaciated, in allusion to the appearance of this grass.

Mariscus. From the Celtic word *mar*, a marsh, relating to the places where it grows.

(1) retusa, W. (2) Christaria, Ph. (3) M. C. Leavenworth. retusa, W.? (4) Scirpus, L. (5) ovularis, Vahl. Kyllinga ovularis, Mx.

short: spikes globose: flowers spreading. Var. *tenellus*, T. (L.) culm acutely triangular, slender: involucre 3—5-leaved; 3 of the leaves many times longer than the umbel. 6—18 i. *S.* Y.

Southern.

cylindricus, E. (Ju.) stem obtusely 3-angled, glabrous: umbels simple; heads cylindric: spikes lanceolate, sub-compressed, few-flowered (2—5:) expanding. 2—3 f.

Mariscus, CYPERUS.

13—1. MARRU'BIUM. 42. 42.

vulgare, (horehound. O. w. Ju. 2f.) leaves round-ovate, toothed, rugose-veined: calyx toothed, setaceous, uncinate. Introduced. *S.*

17—1. MARSHAL'LIA. (1) 49. 55.

Southern.

lanceolata, Mx. (p. M. 2f.) stem simple, naked near the summit, leafy below: radical leaves obovate; cauline ones long-lanceolate: scales of the calyx oval: chaff spatulate. 18—24 i.

latifolia, Mx. (A. 2f.) stem simple: leaves lance-oblong, acuminate, 3-nerved: lowest ones sheathing: scales of the calyx acute: chaff of the receptacles narrow-linear.

angustifolia, Mx. (W. p. Ju. 2f.) stem branching: lower leaves narrow-lanceolate: upper ones linear: scales of the calyx rigid, subulate: chaff linear. Var. *cyananthera*, E. stem simple, very pubescent near the top: leaves lance-linear, 3-nerved: scales of the calyx lanceolate, acuminate. 2 f.

13—2. MARTY'NIA. 40. 40.

proboscid'ea, W. (?) (unicorn plant. W. w p. y. Ju. ☉.) stem branching: leaves alternate, cordate, entire, villose. Fruit somewhat gourd-like, with one long horn. 1—2 f. *S.* F. H.

17—2. MATRICA'RIA. 49. 55.

Exotic.

chamomilla, W. (wild chamomile. w. M. ☉.) leaves bipinnate: scales of the calyx obtusish.

12—1. MECONOP'SIS. 27. 62.

diphylla, Mx. (3) (W. M. 2f.) stem with two twin leaves near the

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Marrubium. From Marrubium, (Maria urbs) a town in Italy.

Marshallia. In honor of Humphrey Marshall, author of Arbustum Americanum, published in 1778.

Martynia. In honor of John Martyn, late Professor of Botany at Cambridge.

Matricaria. Lat. *matrix*, womb, from its efficacy in diseases of females.

Meconopsis. Gr. *mekōn*, a poppy, and *opsis*, appearance.

(1(Persoonia, Mx. Trattenickia, P. (2) annua, L. alternifolia, Lk. (3) Chelidonium, Mx. Hytophorum, N.

summit: leaves sessile, lobe pinnatifid: peduncle solitary, 1-flowered: capsule oblong-ovate. *S.*

Southern.

petiolata, N. (1) (W. y. J. 2[.) stem 4-sided: leaves very broad, long petioled, pinnatifid-lobed; lobes 5—7, angularly and incisely toothed. 2—18 i. New Orleans.

Medea, DODECATHEON.

16—10. MEDICA'GO. 32. 93.

lupulina, (hop medick, nonesuch, Dutch clover. O. y. J. ☊.) spikes oval: legumes reniform, 1-seeded: stipules entire: leaves obovate: stem procumbent. *S.*

Exotic.

intertexta, (y. Au.) peduncles somewhat 2-flowered: legumes spiral, oval: prickles pubescent, setaceous, 2-ranked, appressed: stipules ciliate toothed: leafets obovate, dentate. Naturalized.

sativa, (lucerne medick. p. Ju. 2[.) peduncles racemed: legume smooth, cochleate: stipules entire: leaves oblong, toothed. Naturalized.

tribuloides, (hedge-hog. ☊.) peduncles 2-flowered: legume cochleate, cylindric, flat both sides, aculeate, conic 2-ways, reflexed: stipules toothed: leaves toothed, obovate.

scutellata, (snail-shell, bee-hive. Ju. ☊.) peduncles about 2-flowered: legumes unarmed, cochleate in an orbicular form, with a convex base and a flat top: stipules toothed: leaves oblong, toothed.

Medeola, GYROMIA.

13—2. ME'LAMPY'RUM. 40. 36.

americanum, Mx. (2) (cow-wheat. O. y. Ju. ☊.) slender: lower leaves linear, entire; floral ones lanceolate, toothed behind: flowers axillary, distinct. Var. *latifolium*, has very broad leaves. Woods. *S.*

brachiatum, Sz. & Say. (W.) stem terete, sub-scabrous naked below, with long, naked, ascending, opposite or whorled branches: leaves entire, rugose and scabrous on both sides, attenuated into the petiole. 6—8 i.

6—3. MELAN'THIUM. 10. 13.

virginicum, W. (3) (black flower. W. w. becoming black. J. 2[.) panicle pyramid-form: petals oval, sub-hastate, flat, with 2 spots: flowers mostly perfect. 2—3 f. *S.* P. Y.

hybridum, Wr. (4) (bunch flower. W. w. J. 2[.) panicles racemed above,

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Medicago. Gr. *medikē*, so named from having been introduced by the Medes into Greece.

Melampyrum. Gr. *melas*, black, and *puros*, wheat; the fruit being similar to wheat, but giving a singularly black color to wheat in which it is ground.

Melanthium. Gr. *melas*, black, and *anthos*, flower; from their color. (1) Stylophorum, N. (2) lineare, Lk. (3) Helonias virginica, Bot. Mag. (4) latifolium, Lk. racemosum, Mx.

pistillate: petals roundish, having claws, undulate-plaited, hardly spotted, hirsute outside. 2 f. *S.* P.

glaucum, N. (W. g-w. Ju.) root bulbous: leaves glaucous, margined: raceme mostly simple, few-flowered: petals roundish unguiculate, with two peculiar spots: seeds subulate, alated. 1—3 f. Northern Lakes. Canada.

Southern.

monoicum, Wr. (A. Ju. 2f.) panicle with the lower flowers staminate; upper ones pistillate and racemed: petals oblong, flat, with short claws: styles half as long as the germ.

17—1. ME'LANAN'THERA. 49. 55.

Southern.

hastata, Mx. (1) (w. S. 2f.) leaves hastate, 3-lobed: chaff of the receptacle lanceolate, acuminate. Var. *lobata*, leaves deeply 3-lobed. Var. *panduràta*, leaves slightly 3-lobed, panduriform. 4—6 f. Charleston, S. C.

10—1. ME'LIA. 54. 71.

Southern.

azedarach, (bead tree. ♄.) leaves doubly-pinnate: leafets smooth, ovate, toothed. 30—40 f. Florida.

3—2. MEL'ICA. 10. 4.

speciosa, M. (2) (melic grass. J. 2f.) smooth; panicle loose, erect, few-flowered: branches simple: florets obtuse. 3—4 f. *S.* P. Charleston, S. C.

Southern.

diffusa, Ph. (J. 2f.) panicle diffuse, very branching: flowers acute, beardless; stem erect, pubescent.

16—10. MELILO'TUS. (3) 32. 93.

vulgaris, (4) (yellow melilot-clover. y. J. ☉.) stem erect; leafets oblanceolate, mucronately serrulate: banner and wings *equal:** racemes axillary sub-panicled; the longest raceme 3 to 5 times as long as the longest leafet at its base: legumes oval. 2 to 4 f. Unquestionably indigenous from Glenn's Falls on the Hudson river, to the Highlands. *S.* T. P. C. B.

Melanthera. Gr. *melas*, black, and Lat. *anthera*, anther.

Melia. Gr. *melia*, the ash; because this tree resembles the ash in its leaves.

Melica. Varied from Meline, the name of a sort of grass, resembling Panicum.

Melilotus. Gr. *meli*, honey, and *lōtos*, lotus; these plants are similar to the lotus and the favorite resort of bees.

(1) Bidens nivea, W. Athanasia, Wr.

(2) glabra, Mx. (3) Trifolium, L. (4) officinalis?

*Suggested by H. H. E.

alba, (1) (white melilot-clover. w J. ☺.) stem erect: leaflets variable (oval, ovate, obovate, and oblanceolate) mucronately serrulate: banner *longer** than the wings: racemes axillary, panicled: the longest raceme 6 to 10 times as long as the longest leafet at its base: legumes oval. 3 to 6 f. Flowers and legumes smaller than the preceding species and the stem more robust Probably introduced; but now very common and growing wild. Both species sweet scented. *S. T. P. C. B.*

Melilotus, PSORALEA.

13—1. MELIS'SA. 42. 42.

Exotic.

officinal'is, (balm. w. b. Ju. 2[.) flowers whorled half way around, subsessile; bracts oblong, pedicelled: leaves ovate, acute, serrate. Naturalized.

19—15. MELO'THRIA. 34. 97.

pendula, (creeping cucumber. y. J. ☺.) leaves sub-reniform, lobe-angled; terminal lobe equalling the rest: berry cylindric, ovate. *S. T. P.*

20—13. MENISPER'MUM. 11. 77.

canadense, (moonseed. O. w-y. Ju. ♄.) stem climbing: leaves sub-cordate, round-angled, peltate, with the petiole near the base: racemes compound: petals 8. Var. *lobatum*, Ph. (2) leaves lobed. *S.*

Southern.

smila'cinum, W. (3) (W. y. Ju. ♄.) leaves peltate, sub-glabrous, cordate, roundish, obtusely angled, glaucous beneath: racemes generally simple: petals 4.

lyoni, Ph. (W. Ju. 2[.) leaves cordate, palmate-lobed, very long petioled: racemes simple: petals 6: stamens 12.

13—1. MEN'THA. 42. 42.

tenuis, MX. (4) (american spear-mint. O. w. J. 2[.) glabrous: leaves

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Melissa. Gr. *melissa*, a bee, from that insect frequenting the flowers.

Melothria. Gr. *melon*, fruit, and *thrion*, food, in allusion to some species.

Menispermum. Gr. *mēnē*, the moon, and *sperma*, seed; from its crescent shape.

Mentha. From Menthe, daughter of Cocytus, fabled to have been changed into this herb.

(1) var. alba?

I adopt the genuine names of old authors; because the descriptions of modern authors are either very deficient, or they did not have our plants before them. Whereas the figures and descriptions of the older authors show, that they were acquainted with both of our species, which they called by those names. See Parkinson, p. 718. London ed. A. D. 1640.

(2) M. virginicum, W. (3) Cissampelos, W. (4) viridis, Wr.

*Suggested by H. H. E.

lanceovate, serrulate, petioled; spike slender, terminal, with small interrupted whorls: stamens not exsert. 1—2 f. *S.*

canadensis, W. (W. w-p. Au. 2ſ.) flowers whorled: leaves lanceolate, serrate, petioled, pilose: stamens equalling the corol. 12 i. Y. C. Canada.

borealis, Mx. (northern mint, horse mint. O. w. Ju. 2ſ.) ascending, pubescent: leaves petioled, lance-oval, acute at both ends; flowers whorled: stamens exsert. Damp. 9—18 i. *S.*

viridis, (spear-mint. W. p. Au.) leaves lanceolate, sessile: spikes elongated, interrupted: stamens long. 1—2 f. P. B. T. C. N.

Exotic.

piperita, (peppermint. W. p. Au. 2ſ.) spikes obtuse, interrupted below: leaves subovate, somewhat glabrous, petioled: stem glabrous at the base. Naturalized. 1—2 f. F. B. N. T.

arvensis, (field mint. W. p. Ju.) hairy, branching: leaves ovate: flowers whorled: calyx bell-form. Naturalized. 1 f.

11—1. MENTZE'LIA. 17. 88.

Southern.

aurea, N. (W. y.) stem dichotomous: leaves lance-ovate, deeply angular-crenate; flowers sessile; petals oval, acuminate, entire: capsule about 3-seeded. Very rough and tenaceous. 12 i.

oligosperma, N. (W.) decumbent: flowers large.

5—1. MENYAN'THES. 47. 46.

trifoliata, (buck-bean. O. w. M. 2ſ.) leaves ternate: corols densely bearded above. In stagnant waters and sphagnus swamps. 6—12 i. *S.*

Menyanthes, VILLARSIA.

8—1. MENZIE'SIA. 18. 50.

cærulea, W. (1) (mountain heath. A. r. Ju. ♄.) leaves scattered, crowded, linear, obtuse, cartilaginous-toothed; peduncles terminal, aggregate, 1-flowered: flowers bell-form: calyx acute. Decandrous. Very small. Whitehills.

globularis, Sy. (A. J. ♄.) leaves lanceolate, glaucous beneath except the nerves, pubescent: calyx 4-cleft: flowers globose, octandrous 2—4 f. *S.*

empetriformis, S. (W. r. Ju. ♄.) leaves linear, serrulate, concave beneath: peduncles terminal, aggregate: flowers bell-form: calyx obtuse. Decandrous.

Southern.

ferruginea, W. (W. J. ♄.(leaves lance-obovate, glabrous beneath ex-

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Mentzelia. In honor of Dr. Christian Mentzel, physician to the Elector of Brandenburg.

Menyanthes. Gr. *men* or *mēne*, a month, and *anthos*, flower, because the plant continues in flower about that time.

Menziesia. In honor of Archibald Menzies, a distinguished botanist.

(1) Andromeda taxifolia, Pallas. Erica, W. Phyllodoce taxifolia, Sy.

cept the nerves: calyx somewhat 4-cleft: flowers urceolate, octandrous.

11—5. MESEMBRYAN'THEMUM. 13. 87.

Exotic.

crystallinum, (ice plant. w. Au. ☉.) branching: leaves alternate, ovate, papillose: flowers sessile; calyx broad-ovate, acute, retuse.

11—5. MES'PILUS. 36. 92.

Exotic.

germanica, (medlar. ♄.) leaves lance-ovate, downy beneath: flowers sessile, solitary.

2—1. MICRAN'THEMUM. 20. 35.

Southern.

orbiculatum, MX. (w. Au. 2ſ.) stem prostrate, terete: leaves orbicular, abruptly narrowed at the base: flowers peduncled. Wet ditches.
emarginatum, E. (w. Au. 2ſ.) leaves oval and obovate, emarginate; flowers sessile. Wet.

10—4. MICROPE'TALON. 22. 82.

lanceolatum, MX. (1) (blind starwort. A. Ju. 2ſ.) glabrous: leaves lanceolate, narrow at both ends: flowers panicled: petals ovate, very short or wanting. Damp. 6—8 i. H. P.
longifolia, M. (2) (long-leaf-starwort. W. w. J. 2ſ.) stem decumbent, or sub-decumbent, leaves lance-linear, opposite, entire, smooth: panicle terminal: calyx 3-nerved, about equalling the petals. 12—18 i. *S.* P. D. F.

Southern.

lanuginosum, MX. (A. Ju. 2ſ.) dense-pubescent: leaves lanceolate, tapering into the petiole: peduncles sub-solitary, elongated, at last reflected: flowers without petals.

18—1. MICROS'TYLIS. 7. 21.

ophioglossoides, W. (3) (adder mouth. g-w. J. 2ſ.) leaf solitary, ovate,

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Mesembryanthemum. Gr. *mesēmbria*, mid-day, and *anthos*, flower: on account of the flowers usually expanding at that time.
Mespilus. Gr. *mespilē*, from *mesos pilos*, half-bullet, to which the fruit bears resemblance.
Micranthemum. Gr. *mikros*, small, and *anthos*, flower, from the diminutive size of the blossom.
Micropetalum. Gr. *mikros*, small, and *petalon*, petal, from their diminutive size.
Microstylis. Gr. *mikros*, small, and *stulos*, style; in reference to the minute column or style.
(1) Stellaria, T. Spergulastrum, MX. (2) gramineum, Ph. Stellaria, M. (3) Malaxis, W. unifolia, MX.

clasping: scape 5-angled: lip cleft at the tip. 6—9 i. S. T. D. Y. C. V. B. P. N. Rocky Mts.

3—1. Mie'gia. (1) 4. 10.

Southern.

macrosperma, Mx. (cane. W. Ap. 2f.) stem terete, glabrous, hollow, rigid: leaves distichous, lanceolate, flat, sub-acuminate, pubescent beneath. 3—15 f. Var. *gigantea*, much taller. 30—40 f.

17—1. Mika'nia. 49. 55.

scandens, (2) (climbing thorough-wort. w. Au. 2f.) stem smooth, climbing: leaves cordate, repand-toothed, acuminate; lobes divaricate, unequal: flowers corymbed. Damp or wet. S. P. Y. C. B F.

pubescens, M. (w-p. Au. 2f.) pubescent: stem climbing: leaves cordate, repand-toothed, angled at the base; acuminate: calyx 4-flowered. S.

3—2. Mil'ium. 4. 10.

effusum, (millet. 2f.) panicle diffuse, compound: branches horizontal: glumes ovate, very obtuse: corol awnless, smooth and shining: leaves broad-linear. 5—8 f.

amphicarpon, Ph. (3) (millet grass. Au. 2f.) leaves lance-linear, hairy, ciliate: panicle simple, contracted, bearing perfect flowers: fertile flowers in solitary, elongated, radical scapes, at length subterraneous. 18—24 i. Y.

pungens, T. (4) (dwarf millet grass. M. 2f.) culm erect; leaves lanceolate, very short, pungent at length involute: panicle contracted; branches generally in pairs, 2-flowered: flowers awnless, ovate: corol hairy. 12—18 i. B.

Exotic.

nigricans, (african millet.) flowers panicled, crowded: valves of the calyx shining, becoming black: leaves ensiform, very long.

Milium, Piptatherum.

Mimosa, Acacia, Schrankia.

13—2. Mim'ulus. 40. 37.

ringens, (monkey-flower. O. b. Ju. 2f.) erect, glabrous; leaves sessile, lanceolate, acuminate, sub-serrate: peduncles axillary, opposite, longer than the flower: teeth of the calyx acuminate. 1—2 f. S.

alatus, (W. b. Ju. 2f.) erect, glabrous: leaves petioled, ovate, acumin-

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Miegia. In honor of two Swiss botanists, father and son, Jno. Rodolph and Achilles Meig.

Mikania. In honor of Prof. Jos. Mikan of Prague.

Milium. Lat *milium*, a sort of grass, so called from *mille*, a thousand, from the abundance of its seeds, or from Celtic *mil*, a pebble, alluding to the hard, shining grains.

Mimulus. Lat. *mimus*, a masked actor, from a supposed resemblance of its corol or seeds.

(1) Arundinaria, Mx. (2) Eupatorium, L. (3) ciliatum, M.

(4) Synonymous with Stipa canadensis, T.

ate, serrate: peduncles axillary, opposite, shorter than the flower: stem winged at the 4 corners: teeth of the calyx round-mucronate. 1—3 f. S. T. Y. P. C. F. H.

luteus, W. (W. y. Ju. 2ſ.) erect glabrous, stoloniferous; leaves roundish-ovate, nerved, toothed; lower ones obtuse, petioled; upper ones acute, closely sessile: raceme terminal: peduncles axillary, opposite: elongated: calyx unequal; teeth acutish. 12—18 i. Cultivated.

rivularis? N. (y. 2ſ.) leaves oval, obtuse, crenate: cauline ones sessile: flowers axillary and terminal: teeth of the calyx very short. R.

Southern.

lewisii, Ph. (W. p. Au. 2ſ.) erect, small, pubescent: leaves sessile, lance-oblong, acute, nerved, mucronate-denticulate: flowers few, terminal, very long peduncled: teeth of the calyx acuminate. 6—8 i.

5—1. MIRAB'ILIS. 54. 32.

Exotic.

dichotoma, (mexican four o'clock. 2ſ.) flowers sessile, axillary, erect, solitary.

jalapa, (four o'clock. r. y. Ju. 2ſ.) flowers heaped, peduncled: leaves glabrous.

longiflora, (w. Au. 2ſ.) flowers crowded, very long, a little nodding: leaves sub-villose.

4—1. MITCHEL'LA. 48. 57.

repens, (patridge berry, checker berry. O. w. J. 2ſ.) stem creeping: leaves roundish, petioled, opposite. Woods. *S.*

10—2. MITEL'LA. 13. 84.

diphylla, W. (currant leaf. W. w. Ap. 2ſ.) leaves cordate, sub-lobate, dentate: scape 2-leaved: leaves opposite. Woods. 1—2 f. P. T. C. D. O. N. V.

cordifolia, Lk. (W. w. M. 2ſ.) leaves round-reniform, doubly-crenate, with scattered hairs above: scape erect or prostrate, naked or 1-leaved. Var. *reniformis*, (1) leaves reniform, scape naked. Var. *prostrata*, (2) stems prostrate, leafy. 6—8 i. *S.* P. C. D. N.

prostrata, (W. Ju. 2ſ.) root creeping; stem prostrate: leaves alternate round-cordate, sub-acute, obtusely sub-lobed. Canada.

trifida, Graham, (2ſ.) pentandrous; leaves radical, cordate, obtusely lobed, crenate: scape leafless: calyx campanulate, limb spreading at the apex: petals trifid: ovarium seed-bearing. R. A.

Mirabilis. Lat. *mirabilis*, wonderful, on account of the diversity of these most fragrant flowers even on the same root.

Mitchella. In honor of Dr. John Mitchell, an English botanist who travelled in Virginia.

Mitella. Lat. diminutive of *mitra*, a cap, or mitre, the ripe seed vessels with the two little pointed lobes resembling a little mitre.

(1) nuda, W. (2) prostrata, Mx.

Mitella, TELLIMA.

Mitreola, OPHIORIZA.

3—3. MOLLU'GO. 22. 82.

verticillata, (carpet-weed. O. w. Ju. ☺.) stem sub-divided, prostrate: leaves in whorls, wedge form, acute: peduncles 1-flowered. *S.*

13—1. MOLUCEL'LA. 42. 42.

Exotic.

lævis, (molucca balm, shell-flower. w. g. Ju. ☺.) calyx campanulate, 5-toothed: teeth equal, awnless: leaves petioled, round-ovate, toothed. Calyx much longer and larger than the corol.

19—15. MOMOR'DICA. 34. 97.

echinata, (W. w. Au. ☺.) pomaceous; berry 4-seeded, roundish, setose-echinate: leaves cordate, 5-lobe-angled, acuminate, entire. Calyx 6 cleft: corol 6-parted. W. T. P. C. N.

Exotic.

balsamina, (balsam apple. S. ☺.) pomaceous: berry angled, tubercled: leaves glabrous, spreading, palmate.

2—1. MONAR'DA. 42. 42.

didyma, (1) (mountain mint. O. r. J. 2ℓ.) leaves ovate, acuminate, subcordate, somewhat hairy: flowers in simple or proliferous heads: outer bracts large, coloured, lanceolate. Var. *angustifolia*, (2) leaves lance-ovate, acuminate, pubescent; stem pubescent. 18—24 i. *S.*

oblongata, A. (3) (wild burgamot. W. b. r. Ju. 2ℓ.) pubescent: head simple: outer bracts ovate; calyx short, bearded in the throat; teeth spreading: stem obtuse-angled, pubescent above: leaves lance-oblong, rounded at the base. 2—3 f. *S.* P. B. Y. C. T. H. O M. W. D.

clinopodia, (4) (W. y. p. Ju. 2ℓ.) glabrous: heads small, simple, terminal: outer bracts broad-ovate, acute, entire, smoothish: calyx ciliate, short: corol pubescent, slender: leaves ovate-oblong, acuminate, serrate, a little hairy; stem obtuse-angled, glabrous. *S.* P. Canada. Salina.

fistulosa, (W. p. Ju. 2ℓ.) hirsute, with scattered hairs: heads simple, proliferous, leafy: outer bracts oblong, acute, glabrous: calyx long, bearded: corol hirsute, of middling length: leaves ovate, acuminate,

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Mollugo. Lat. *mollugo*, a name supposed to be derived from *mollis*, soft, on account of its soft leaves.

Molucella. Latinised by Linneus, from Molucca, because it was first found in those islands.

Momordica. Lat. *mordeo*, *momordi*, to bite; the seeds appearing as if bitten off. But the word appears to be of Italian origin.

Monarda. In honor of Nicholas Monardes a, Spanish botanist of the 16th century.

(1) purpurea, Lk. coccinea, Mx. (2) kalmiana, Ph. (3) longifolia, Lk. allophylla, Mx. mollis, W. (4) glabra, Lk.

serrate: petioles long, ciliate: stem glabrous, obtuse-angled. 2 f. *S.* P. Y. Canada.

punctata, (1) (W. y. J. 2*f*.) smoothish: flowers middling size, whorled: bracts lanceolate, colored, longer than the whorls: leaves lance-oblong, remotely serrate: stem obtuse-angled, with whitish down. 2—3 f. *S.* P. Y. D.

hirsuta, Ph. (2) W. b. p. Au. 2*f*.) very hairy: flowers small, whorled: bracts attenuated into awns: upper teeth of the calyx very short, the rest bristle-form: leaves ovate, acuminate, long-petioled, serrate. 2—3 f. *S.* K. N.

beckii, Ea. (W. 2*f*.) stem rough, with stiff white hairs: leaves petioled, ovate oblong and lanceolate, serrate, acutish, somewhat hairy: bracts ovate, glabrous, veiny, a little shorter than the 2-lipped calyx: upper teeth of the calyx subulate. Flowers small, in whorls. First discovered by Professor L. C. Beck near St. Louis. Described by Torrey in the Annals of the N. Y. Lyceum.

ciliata, (p. Au. 2*f*.) hirsute: flowers small, whorled; bracts ovate, glabrous, veiny, ciliate, equalling the calyx: leaves ovate-oblong, tapering, sub-sessile, serrate, pubescent: stem acute-angled, hirsute. *S.* P. Y. V. D.

rugosa, A. (W. A. w. Ju. 2*f*.) smoothish: heads simple, middling size; outer bracts ovate, undulate: calyx smoothish: leaves ovate, subcordate, acute, rugose: nerves beneath and petioles pilose: stem acute-angled, smoothish. 4 f. Canada.

Southern.

gracilis, Ph. (A. y-w.) very glabrous: heads lateral and terminal, small: outer bracts linear, ciliate: calyx pubescent ciliate: corol short: leaves lance-linear, acuminate, serrate: stem obtusely angled, glabrous.

purpurea, Ph. (A. r. Ju. 2*f*.) somewhat glabrous: heads large, leafy: outer bracts large, colored, broad-ovate, acuminate, serrate: calyx colored; throat bearded: corol long, nearly glabrous: leaves oblong-ovate, acute, coarsely serrate; nerves all over pilose: stem acutely angled, glabrous.

bradburiana, Bk. (W. p. Ju. 2*f*.) heads large, terminal: outer bracts broad-lanceolate, ciliate, colored: calyx pilose, densely bearded at the throat, with 5 subulate, very long, divaricate teeth: leaves opposite, sessile, or with very short ciliate petioles; hairy on both sides, lance-oblong, dentate, rounded at the base. Stem simple. 3 f.

scabra, Bk. (W. p. Au. 2*f*.) heads large, simple, terminal, somewhat in threes: bracts lance-ovate; teeth of the calyx short, acute, nearly straight: leaves lance-ovate, sub-cordate, serrate, opposite, scabrous, punctate, somewhat hairy: petioles short, hairy. Stem branching. 3 f.

3—2. MONOCE'RA. 4. 10.

Southern.

aromatica, Wr. (3) (J. 2*f*.) spike solitary; spikelets about 6-flowered:

Monocera. Gr. *monos*, one, and *keras*, horn, there being but one spike. (1) lutea, Mx, (2) ciliata, Mx. not L. (3) Aegilops, Wr. Chloris monostachya, Mx.

flowers awned, bearded at the margin: exterior valve of the corol roughened by glands, awned on the back.

10—1. MONOTRO'PA. 18. 51.

uniflora, (bird's nest, indian pipe. O. w. J. 2ℓ.) stem 1-flowered: flower nodding at first, at length erect: scales of the stem approximate. Whole plant ivory-white at first. 4—8 i. *S.*

morisoniana, Mx. (J. 2ℓ.) scape elongated, straight, 1-flowered: scales distant: flowers erect: stamens 10—12. S. C.

10—1. MONOTROP'SIS. (1) 18. 51.

Southern.

odorata, Sz. (r-w. Mar.) flowers bell-form, in aggregate heads. 3—4 i.

3—3. MON'TIA. 54. 86.

fontana, (false spring beauty.) leaves opposite: flowers axillary, small. Wet.

19—4. MO'RUS. 53. 98.

rubra, W. (red mulberry. W. M. ♄.) leaves cordate, ovate, acuminated or 3-lobed, equally serrate, scabrous, soft hairs beneath: pistillate spikes cylindric. 15—30 f. *S.* T. Y. P. C. O. N. F.

Exotic.

alba, (white mulberry. M. ♄.) leaves heart-form, with oblique bases, ovate or lobed, unequally serrate, smoothish. From China and Persia. Naturalized. 15—20 f.

nigra, (black mulberry. Ju. ♄.) leaves cordate, ovate or sub-5-lobed, unequally toothed, scabrous. From Persia.

3—2. MUHLENBERG'IA. 4. 10.

diffusa, Sr. (2) (drop-seed grass. O. J. 2ℓ.) culm diffuse: (decumbent) leaves lance-linear, panicle branched, appressed: awns as long as the corol. 18 i. *S.*

Muhlenbergia, BRACHYELYTRUM.

14—1. MYA'GRUM. 39. 63.

Southern.

argenteum, Ph. (3) (W. y. Ap. 2ℓ.) silver-downy: stems numerous, simple, angular: leaves linear-spatulate, entire, obtuse, attenuated.

Monotropa. Gr. *monos*, one, and *trepō*, to turn, the flowers all turning in one direction.

Monotropsis. Appearing like a Monotropa.

Montia. In honor of Joseph de Monti, Professor of Natural History at Bologna, in the beginning of the 18th century.

Morus. *Morea*, was the Greek name of the mulberry, *amauros*, black: the Celtic, *mor*, denotes black.

Muhlenbergia. In honor of Rev. H. Muhlenberg, of Lancaster, Penn.

Myagrum. Gr. *muia*, a fly, and *agra*, capture; flies being caught by the viscidity of the original plant.

(1) Elliott proposed SCHWEINITZIA as a substitute for MONOTROPSIS, and Nuttall has adopted it. (2) Dilepymum, Mx. (3) Alyssum ludovicianum, N.

Myagrum, Alyssum, Camelina.

4—4. Mygin'da. 43. 95.

myrtifolia, Jn. (1) (W. w. Au. ♄.) leaves opposite, oblong, obtuse, serrate, reflexed at the margin, glabrous, perennial: peduncles axillary, very short, sub-solitary, 1-flowered, 2-bracted at the base. *S.* R.

10—1. Myloca'ryum. 23. 51.

Southern.

ligustrinum, W. (buckwheat tree. w. M. ♄.) leaves perennial, alternate, sessile, wedge-lanceolate, very entire, glabrous, sub-glaucous beneath: racemes simple, terminal. 6—15 f. Florida.

5—1. Myoso'tis. 41. 43.

palustris, Roth. (2) (scorpion weed. W. b. M. ♃.) seeds smooth: calyx leaves sub-oval, about as long as the tube of the corol: stem sub-ramose: leaves lance-oval: racemes bractless. 12—18 i. P. Y. H. B. N. C. Hudson.

arvensis, (3) (forget-me-not. W. w. b. J. ☹.) seeds smooth: calyx leaves oval, acuminate, very hirsute, longer than the tube of the corol: stem very branching: racemes conjugate: leaves lance-oblong, hirsute. 4—8 i. *S.* T. Y. P. N. F. M. D.

suffruticosa, T. & J. (W. b.?) stem suffruticose, very branching, hirsute: leaves lance-linear, hispid pilose: spikes terminal, many: flowers pedicelled: calyx closed: seeds smooth depressed ovate. 8 i.

Southern.

nana, W. (W. b. & y. ♃.) leaves oblong, villose: racemes few-flowered: seeds smoothish; margin serrulate.

Myosotis, Rochelia.

5—13. Myosu'rus. 26. 61.

Southern.

minimus, (Ap. ☹.) leaves linear, entire: scape 1-flowered: stamens 5—8. Petals anther-form. 2—4 i.

shortii, R. (W. ☹.) scape shorter than the leaves: nectary (appendage of the calyx) membranaceous. Hopkinsville, Kentucky.

20—4. Myri'ca. 50. 99.

gale, W. (sweet gale, bog myrtle. W. M. ♄.) leaves wedge-lanceolate,

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Myginda. In honor of Francis Von Mygind, a German patron of Botany.

Mylocaryum. Gr. *mulē*, a mill, and *karua*, a kernel or stone, in form, the nut resembles mill-stones.

Myosotis. Gr. *mus*, *(muos)* mouse, and *ous*, *(ōtos)* ear, alluding to the shape and hairiness of the leaves.

Myosurus. Gr. *mus*, *(muos)* mouse, and *oura*, tail, referring to the long, slender receptacle.

Myrica. Gr. *murikē*, a name applied to this genus, from a supposed resemblance to the tamarisk; perhaps from Gr. *muro*, to flow, because wax flows from its fruit, on warm days.

(1) Ilex myrsinites, Ph. (2) scorpioides, W. laxa, Lk. (3) verna, N.

obtuse, serrate at the apex: staminate aments imbricate; scales acuminate, ciliate: fruit in a scaly head. 3—4 f. C. H. B. D.

cerif'era, (bayberry. W. g-p. M. ♄.) leaves wedge-lanceolate, acute, with distant serratures at the apex: staminate aments lax; scales acute: fruit small, globose, covered with a whitish wax, in a mealy state. Var. *pumila*, Mx. leaves lance-linear. 2—18 f. *S.* C. Y. P. B. F. O. N.

caroliniensis, W. (Ap. ♄.) leaves wedge-oblong, coarsely toothed: staminate aments lax; scales acute: berry globose, large. 3—4 f. *S.* C. New England.

pennsylvanica, Lk. (M. ♄.) leaves oblong, acutish at each end, very entire or sparingly sub-serrate at the apex, revolute at the margin; staminate aments lax; scales acute: berry globose, large. 3 f.

19—12. MY'RIOPHYL'LUM. 15. 88.

verticillatum, (water milfoil. W. Ju. 2[.) leaves pinnate, capillary: upper ones pectinate-pinnatifid: flowers in axillary whorls; lower ones pistillate: upper ones staminate or perfect, octandrous. In stagnant waters. *S.* B. P. Y. C. N. Canada.

spicatum, (Ju. 2[.) leaves all pinnate, capillaceous: spikes interrupted, naked, whorled: flowers staminate, polyandrous. D. Y. Canada.

heterophyllum, Mx. (Ju. 2[.) lower leaves capillary, pinnate; upper ones oval, acutely serrate: flowers hexandrous.

capillaceum, (Ju. 2[.) leaves all capillary, pinnate; flowers axillary, opposite, and alternate, tetrandrous, mostly perfect: fruit 4-angled, formed of four cylindrical seeds.

ambiguum, N. (1) ( ) stem floating, dichotomous: leaves petioled, obsoletely pinnate; lowest ones capillary, middle ones pectinate, upper ones nearly entire. Var. *limosum*, stem rooting, erect; leaves rigid, mostly 3-cleft: segments setaceous, acute. Y. B.

tenellum, Bw. (Ju. 2[.) erect, nearly leafless: bracts entire, obtuse: petals linear, conduplicate and revolute. 4—12 i. B. F.

Southern.

scabratum, Mx. (J. 2[.) leaves pinnatifid: flowers whorled, axillary: upper ones staminate, tetrandrous; lower ones pistillate: fruit 8-angled. 12 i.

Myrrhis, URASPERMUM.

11—1. MYR'TUS. 19. 89.

Exotic.

communis, (myrtle. w. Ju. ♄.) flowers solitary: involucre 2-leaved: leaves ovate.

Myriophyllum. Gr. *murios*, innumerable, and *phüllon*, leaf, from their great number.

Myrtus. Gr. *murtos*, the myrtle, said to be from *myrrha*, a nymph, changed into this tree; or from Gr. *muron*, perfume.

(1) procumbens, Bw.

N.

Nabalis, Prenanthes.

19—1. Na'jas. 15. 7.

canadensis, Mx. (water nymph.) small, filiform, smooth: leaves narrow-linear. W. N. Canada.

Napaea, Sida.

6—1. Narcis'sus. 9. 17.

Exotic.

pseudo-narcissus, (daffodil. M. ♄.) spathe 1-flowered: nectary bell-form, erect; crisped, equalling the ovate petals.

tazetta (polyanthos. M. 2[.) spathe many-flowered: nectary bell-form, plicate, truncate, thrice as short as the petals: petals alternately broader: leaves flat.

jonquilla, (jonquil. M. 2[.) spathe many-flowered: nectary bell-form, short: leaves subulate.

poeticus, (poet's narcissus. 2[.) spathe 1-flowered; nectary wheel-form, very short, scarious, (red,) crenulate: leaves inflexed at the margin.

17—2. Nardos'mia. 49. 55.

A sub-genus of Tussilago, which see.

3—1. Nar'dus. 4 10.

Southern.

stricta, (mat grass. W. 2[.) spike setaceous, straight: flowers one-sided.

6—1. Narthe'cium. 10. 13.

americanum, Ker. (1) (false asphodel. E. y. Ju. 2[.) racemes sometimes interruptedly spiked, lax: one cauline bract clasping the pedicel, another chaff-bristle-form below: filaments with short wool. Y.

14—2. Nastur'tium. 39. 63.

natans, Dc. ( ) leaves above water, lanceolate, entire, serrate; immer

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Najas. Gr. *nais*, a water nymph, because it is found floating on clear water.

Narcissus. Gr. *narkissos*, a youth who was, according to Mythology, changed into this flower.

Nardosmia. Gr. *nardos*, *spikenard*, *osme*, odor; it smells like spikenard.

Nardus. Gr. *nardos*, spikenard; a term applied to aromatic grasses, though the present species have no such virtues.

Narthecium. Gr. *narthex*, fennel, from the appearance of the stalk. See Ferula.

Nosturtium. Lat. *nasus*, nose, *tortus*, twisting; from its convulsing the nose on being snuffed.

(1) Phalangium ossifragum, M.

sed leaves bi-tri-pinnatifid, segments capillary: silicles obovate-globose: style long. Canada.

pumilum, N. (y. 2[.) simple: inferior leaves gash-pinnate, oblong, obtuse; upper ones linear, entire. 3—4 i. R.

linifolium, N. (y. M. 2[) slender; simple: leaves linear, entire: lower ones sub-laciniate-gashed: flowers larger. 8—12 i. R.

Nasturtium, ERYSIMUM.

6—2. NEC'TRIS. 15. 61.

Southern.

aquatica, (g-y. M. 2[.) submersed leaves opposite, many-parted, capillary; floating ones alternate, elliptic, peltate entire: raceme terminal.

Nectris, FLOERKEA.

Negundium, ACER.

Negundo, ACER.

12—13. NELUM'BIUM. 26. 61.

luteum, W. (1) (sacred bean. W. y. Ju. 2[.) leaves peltate, orbicular, entire: corol polypetalous: anthers linear above. The largest flowering plant in the Northern States. *S.* D. P. C. Lake Ontario, &c.

Southern.

pentapetalum, W. (w. Ju. 2[.) leaves peltate, orbicular, entire; calyx 5-leaved: petals 5.

reniforme, W. (2[.) leaves reniform: corol polypetalous. These two southern species rest on the authority of Walter, and Dc.

codophyllum, (y. 2[.) leaves downy beneath. Lakes of Louisiana. Leaves two feet wide?

4—4. NEMOPAN'THES. (2) 43. 95.

canadensis, (wild holly, mountain holly. A. g-y. M. ♄.) leaves deciduous, ovate, entire (or a little serrate at the apex,) glabrous: peduncles sub-solitary, long, 1-flowered: fruit somewhat 4-sided. 3—5 f. *S.* Common in high dry woods in New England. B. C. N. F. D. T.

Nectris. From Gr. *nektos*, swimming or floating.

Nelumbium. In Ceylon called Nelumbo, meaning sacred bean. See Rees. art. Cyamus.

Nemopanthes. Gr. *nemos*, grove, and *pantos* (of *pas*) all, in all groves, common.

(1) Nymphea nelumbo, L. Cyamus flavicomus, Sy. luteus, E.

(2) Ilex. The separation of this species from the genus Ilex, was suggested by Professor Dewey of Williams College, in 1818; and he wrote a generic description. I proposed publishing it in my 3d ed. under the name, *Deweya canadensis;* but M. Rafinesque was before me.

5—1. NEMOPH'ILA. 41. 43.

Southern.

phacelioides, N. (W. b. M. ♂.) succulent: stem 3-sided: leaves alternate, pinnatifid: peduncles very long, 1-flowered, opposite the leaves and terminal, somewhat racemed; racemes incurved: fruit deflexed. Resembles Hydrophyllum.

18—1. NEOT'TIA. (1) 7. 21.

tortilis, W. (2) (summer ladies' tresses. O. w. J. 2[.) radical leaves linear: scape sheathed: flowers spirally secund: lip somewhat 3-lobed; middle lobe larger, crenulate. 12 i. *S.*

gracilis, Bw. (O. w. Ju.) leaves radical, ovate: scape sheathed: flowers in a spiral row: lip obovate, curled. Var. *secunda*, spike unilateral, hardly spiral: flowers more slender. 8—12 i.

cernua, (3) nodding ladies' tresses. O. w. Au. 2[.) leaves lanceolate, 3-nerved: stem sheathed: spike oblong, dense-flowered; flowers recurve-nodding: lip oblong, entire, acute. Var. *major*, stem tall, somewhat leafy: flowers very large. Var. *latifolia*, stem short: leaves lance-oblong, sub-radical, flat. 8—18 i. *S.*

Southern.

odorata, W. (w.) stem leafy, glabrous: leaves lanceolate, acuminate; radical ones very long: spike somewhat lax: flowers recurved; lip ovate entire: margin undulate, sub-fimbriate. Newbern, N. C.

Neottia, GOODYERA.

13—1. NEP'ETA. 42. 42.

cataria, (catmint, catnip. O. b-w. 2[.) hoary-pubescent: flowers in whorled spikes; leaves petioled, cordate; tooth serrate. Introduced?

Neurosperma, MOMORDICA.

Nicandria, ATROPA.

5—1. NICOTIA'NA. 28. 38.

Exotic.

tobacum, (virginian tobacco. W. w-r. Ju. ☉.) leaves lance-ovate, sessile, decurrent; flowers acute. Naturalized.

rustica, (common tobacco. W. Au. ☉.) leaves petioled, ovate, entire: flowers obtuse. Naturalized.

paniculata, (small-flowered tobacco. Au. ☉.) leaves petioled, cordate, entire: flowers panicled, obtuse, clavate.

Nemophila. Gr. *nemos*, a grove, and *phileō*, to love, from its habitation.

Neottia. Gr. *neottios*, a bird's nest, from a fancied resemblance in its fibrous roots.

Nepeta. Lat. *nepeta*, supposed to be from *nepa*, a scorpion, it being used to cure their bites: or from Nepete, a town in Italy.

Nicotiana. In honor of John Nicot, of Nismes, who introduced it into Europe.

(1) Spiranthes. (2) Ophrys aestivalis, Mx. Satyrium spirale, Sw. Limodorum præcox, Wr. (3) Ophrys, L. Limodorum autumnale, Wr.

Southern.

quadrivalvis, Ph. (W. b-w. Ju. ☉.) leaves oblong-ovate, petioled: flowers scattered, solitary, near the summit of the branches: corol funnel-form; divisions oblong, acutish: capsule sub-globose, 4-valved.

12—4. NIGEL'LA. 26. 61.

Exotic.

damascena, (fennel-flower. M. ☉.) flower surrounded with a leafy involucre.

sativa, (nutmeg flower.) pistils 5: capsules muricate, roundish leaves sub-pilose, pinnatifid. 9—15 i.

6—3. NOLI'NA. 10. 13.

Southern.

georgiana, Mx. (w. M. 2ſ.) leaves long-linear, coriaceous, dry: scape with small subulate scales near the base: panicle spreading, racemose. 2—3 f.

12—1. NU'PHAR. (1) 13. 62.

advena, (2) (yellow water lily. O. y. Ju. 2ſ.) leaves cordate; lobes divaricate: calyx 5—6-leaved: stigma crenate: capsule furrowed. Leaves always floating in deep water and erect in shallow. Petioles semi-cylindrical. Bw. *S.*

kalmiana, A. (3) (Ju. 2ſ.) leaves cordate, lobes near each other: calyx 5-leaved: stigma gashed, with 8 to 12 radiated lines. Flowers small. Water. O. F. C. T. Y. B. N. Canada.

Southern.

sagittaefolia, Wr. (4) (y. Ju. 2ſ.) leaves long cordate-sagittate, obtuse: calyx 6-leaved: petals 0: anthers sub-sessile: stigma entire. Water.

15—12. NUTTALL'IA. (5) 37. 74.

Southern.

digitata, N. (W. r. M. 2ſ.) glaucous: lower leaves obsoletely digitate, sub-peltate; divisions linear; segments glabrous: upper leaves 3-parted and simple; peduncles somewhat racemed, very long. 3—4 f.

munroana, N. (6) (r. J. 2ſ.) leaves sub-cordate, gash-toothed; upper ones sub-trifid, pubescent: flowers fasciculate, sub-spicate: bracts of the calyx obsolete, deciduous. 9 i. R.

12—1. NYMPHAE'A. 13. 62.

odorata, A. (white pond-lily. O. w. Ju. 2ſ.) leaves round-cordate, en-

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Nigella. Lat. *niger*, black, in allusion to the color of the seeds.
Nolina. In honor of P. C. Nolin, a cultivator of American plants.
Nuphar. Gr. *nouphar*, the water lily; from the Arabic *noufar*.
Nuttallia. In honor of Thomas Nuttall, of Cambridge College, Mass.
Nymphaea. Gr. *numphaia*, belonging to nymphs, who were supposed to inhabit pure and running water.
(1) Nymphea, L. (2) lutea, W. (3) minima, M. (4) Nymphaea, Wr. longifolia, Mx. (5) of W. Dick. Callirhoe, N. (6) Malva munroana, H.

tire, sub-emarginate: lobes spreading asunder, acuminate, obtuse: petals equalling the 4-leaved calyx. Var. *rosea*, petioles, peduncles and leaves purplish beneath; lobes divaricate, acute. *S.*

minor, Dc. (w. 2[.) leaves cordate, entire; nerves and veins prominent beneath; peduncles and petioles somewhat hairy: stigma 16 to 20-rayed. Var. of *odorata*? *S.*

Neuroloma, *Parrya*, HESPERIS.

20—5. NYS'SA. 12. 24.

multiflora, Wr. (1) (pepperidge, tupelo, swamp hornbeam. O. y-g. M. ♄.) leaves obovate, oblong, entire, acute at both ends; the petioles, midribs and margins villose: pistillate peduncles sub-3-flowered: nut short-obovate, obtuse, striate. *S.*

aquatica, (2) (sour gum. W. M. ♄.) leaves ovate-oblong, entire, acute at both ends, glabrous: pistillate peduncles 2-flowered: drupe short, obovate: nut obtusely striate. *S.* Y. C.

Southern.

capitata, Wr. (3) (M. ♄.) leaves short-petioled, lance oblong and oval, nearly entire, pubescent and somewhat hoary beneath: staminate flowers capitate: pistillate ones solitary.

tomentosa, Mx. (W. M. ♄.) leaves long-petioled, obloug, acuminate, remotely serrate, tomentose beneath: pistillate flowers solitary: drupe oblong.

uniflora, Wr. (4) (Ap. 2[.) leaves long-petioled, oblong, acuminate, remotely serrate, glabrous on both sides: pistillate peduncles one-flowered: drupe oblong.

O.

13—2. OBOLA'RIA. 40. 46.

virginica, (penny-wort. r. Ap. 2[.) stem simple: leaves oblong, truncate, fleshy, purple beneath: flowers axillary, solitary, sessile. 3—4 i. *S.* P.

13—1. O'CYMUM. 42. 42.

Exotic.

basil'icum, (basil. ☺.) leaves ovate, glabrous: calyx ciliate. 6—12 i.

5—2. ŒNAN'THE. 45. 60

sarmentosa, Dc. ( ) stem branching, weak, somewhat climbing:

Nyssa. A name of a npmph. Linneus says that he so named it because it grows in the water.

Obolaria. Gr. *obolos*, a small ancient Athenian coin, that bears a considerable resemblance to the rounded leaves of this plant.

Ocymum. Gr. *okus*, quick, in allusion to its rapid growth: or from Gr. *ozo*, to smell, on account of its powerful scent.

Oenanthe. Gr. *oine*, the vine, and *anthos*, flower, because it smells like the vine, and flowers at the same time.

(1) villosa, and sylvatica, Mx. (2) biflora, Wr. integrifolia, A. (3) candicans, Mx. (4) denticulata, A. angulisans, Mx.

leaves gash-bipinnate; segments ovate, dentate, terminal one somewhat 3-lobed: umbels oppbsite the leaves, many-rayed: involucre 0: fruit oblong: style very long. A.

filiformis, Wr. (1) (w. Au. ☉?) leaves simple, terete, jointed, acute: seeds winged. Harper's Ferry.

phellandrium, Lk. (2) (W. Ju. 2ſ.) ramifications of the leaves divaricate. In water.

Œnoplia, RHAMNUS.

8—1. ŒNOTHE'RA. 17. 88.

1. *Capsules elongated: sessile.*

biennis, (scabish, tree-primrose. O. y. J. ♂.) stem villose, scabrous: leaves lance-ovate, flat, toothed: flowers sub-spiked, sessile: stamens shorter than the corol, 3—5 f. *S.*

muricata, (W. y. Ju. ♂.) stem purple, muricate: leaves lanceolate, flat: stamens of the length of the corol. 1—2 f. *S.* T. P. O.

parviflora, (y. Ju. ♂.) stem smooth, sub-villose: leaves lance-ovate, flat: stamens longer than the corol. *S.* Y. T. H.

grandiflora, A. (W. y. Ju. ♂.) stem glabrous, branching: leaves lance-ovate, glabrous: stamens declined. Flowers very large. A variety of Œ. biennis? T. 2—3 f. *S.* P. F.

albicaulis, N. (W. w. Ju. 2ſ.) stem simple, erect, white, glabrous, branching above, leaves lance-linear, rarely sub-serrulate, sub-villose beneath: flowers axillary; petals entire: capsules prismatic. 3 f.

pallida, Lind. (y.) root creeping: stem ascending, branching: leaves lance-linear, acuminate, very entire, or toothed, glabrous: petals retuse, crenulate, exceeding the stamens: capsule cylindric, contorted. R.

leucocarpa, Comein. (y.) stem branching: leaves rigid, serrulate; lower ones lance-spatulate; upper ones lanceolate; younger ones somewhat silky: petals slightly emarginate, apex crenulate, exceeding the tube of the calyx by one half; almost twice as long as the stamens and pistils: capsules cylindric, becoming hoary-silky. R.

viminea, Doug. ( ) stem erect, branching: leaves lanceolate, subentire, glaucous, glabrous: tube of the calyx equalling the divisions: petals entire, denticulate, twice as long as the stamens and pistils: stigma purple: capsules cylindric, apex attenuated, sulcate, pubescent. 2—3 f. North California. R.

lindleyi, Doug. ( ) stem ascending diffusely branched: leaves lance-linear, very entire, glabrous: tube of the calyx ½ as long as the divisions: petals entire, denticulate, twice as long as the stamens and pistils: stigma yellow: capsules cylindric, elongated and attenuated, finely pubescent. 1—2 f. North California. R.

decumbens, Doug. (p.) stem ascending: leaves glaucous, very entire, pubescent; lower ones broad-ovate; upper ones lance-ovate: petals emarginate, crenulate: stigma purple, divisions reflexed: capsules ob-

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Oenothera. Gr. *oinos*, wine, and *thero*, to seek, because the roots are said to excite a desire for wine.

(1) caroliniensis, Ph. teretifolium M. (2) Phellandrium aquaticum, Ph.

tuse, 4-angled, tapering from a thick base to the apex, villose. North California. R.

purpurea, (p.) becoming glaucous; leaves lanceolate, tapering to both ends, obtusish: tube of the calyx short: petals broad-ovate, crenulate: stamens and pistil exsert; stigmas thick, short, dark purple; anthers yellow: capsules ovate-3-sided; sessile, hairy.

romanzowii, (p.) somewhat silky-glaucous: stem decumbent below: leaves lance-oblong, slightly mucronate, tapering into the petiole: tube of the calyx very short; limb half as long as the corol: petals broad-obovate, crenulate, violet colour: stamens much shorter than the corol: anthers green: stigmas almost sessile, inclosed, dark purple: capsule oblong, hairy, somewhat 4-sided.

heterantha, N. (y. J. 2[.) stemless: leaves lance-oblong, entire: petals obovate-sub-rotund, retuse: stamens 4 shorter than the other 4: capsules smooth. R.

sinuata, W. (W. y. J. ☉.) stem diffused, soft-pubescent: leaves oval-oblong, tooth sinuate: flowers axillary, villose: capsules prismatic. Var. *minima*, (1) stem low, simple, 1-flowered: leaves entire. *S.* P.

canadensis, Goldie. ( ) stem sub-glabrous: leaves narrow-lanceolate, sessile, spread-toothed, obscurely ciliate at the margin: capsules oblong-clavate, acute-angled, sessile. Canada.

2. *Capsules ventricose, angular, mostly pedicellate.*

frutiosa, W. (sundrops. W. y. Ju. 2[.) pubescent: stem branched from the base: leaves lanceolate, sub-dentate, acute: capsules pedicelled, oblong-clavate, angled: raceme naked below. Var. *ambigua*, is somewhat hairy: stem simple: leaves lanceolate or lance-ovate, acute, sub-denticulate: petals obcordate; width exceeding the length: capsule sub-sessile, smooth, oblong, 4-winged: raceme naked below. 12—18 i. *S.* P. Y. C. T. D.

incana, N. (y.) stem slender, erect: leaves flat, hoary and tomentose, very entire, oval-ovate, acute: raceme few-flowered, naked: capsules sub-sessile, oblong, 4-sided. Probably a variety of the last. 6—8 i.

hybrida, Mx. (y. Au.) stem erect, villous: leaves pubescent on both sides, lanceolate, remotely toothed, undulate: capsules somewhat spiked, short-pedicelled, ovate-4-angled. 1—3 f. *S.* P. M. Owego.

pumila, (y. Ju. 2[.) glabrous: stem ascending: leaves lanceolate, very entire, obtuse: capsules sub-sessile, elliptic-obovate, angular. 8—12 i. *S.* T. B. C. N.

chrysantha, Mx. (dwarf scabish. y. J. 2[.) stem slender, pubescent: leaves lanceolate, obtusish, flat, entire: tube of the calyx but half as long as the divisions: capsule clavate, acute-angled, mostly sessile. A variety of the last? 10 i. *S.* T. C. F. V.

pusilla, Mx. (A. y. Ju. 2[.) sub-pubescent: stem small, sub-simple: leaves lance-oblong, obtusish, entire: flowers axillary at the top: capsules clavate, turbinate, about equally 8-sided. 4—6 i. *S.* P. C. Canada.

riparia, N. (y. ♂.) smoothish: stem erect, virgate-branched: leaves lance-linear, acute, distantly sub-denticulate, flat: capsules spiked, pedicelled, obovate, 8-grooved: valves with dorsal ridges. 2 f.

quadrivulnera, Doug. ( ) stem ascending, sub-ramose, weak: leaves

(1) Œ. minima, Ph.

lance-linear, sub-denticulate, finely pubescent: petals entire, margin crenulate: capsules 4-angled, apex attenuated, villose. 1—2 f. R.

boothii, Doug. (w.) stem ramose: leaves ovate, dentate, glabrous above, rough beneath; lower ones petioled; upper ones sessile: flowers secund, sub-spiked: petals small, obovate, entire, equalling the stamens: style long-exsert: capsules cylindric, sulcate, twisted. R.

pygmaea, Doug. ( ) stem ascending, ramose: lower leaves petioled, rhomboid, upper ones sessile, lanceolate, all dentate, pubescent: capsules sub-secund, cylindric, tapering to the apex, torulose. R. A.

spiralis, H. ( ) stem sub-simple, decumbent, hoary: leaves lanceolate, obtuse, very entire strigose-pilose, hoary, attenuate below: spikes leafy: petals twice as long as the stamens: capsules acutely 4-angled, acuminate, hoary, sub-spirally twisted. A.

viridescens, H. ( ) dense hoary-tomentose: stem erect, simple: leaves ovate, acute, sessile, coarsely toothed: spikes leafy: petals twice as long as the stamens: capsules acutely 4-angled, sub-hirsute, twisted. Petals when dry are dark green. A.

contorta, Doug. ( ) glabrous: stem weak, branching: leaves linear, very entire: flowers very small: capsules cylindric, contorted-curved, elongated, torulose. R.

tetragona, Roth. (W. 2f.) leaves oval, obtuse, entire: flowers somewhat level-topped: capsules pedicelled, truncate, 4-valved.

Southern.

glauca, Mx. (O. y, Ju. 2f.) very glabrous: leaves broad-oval, repand-denticulate, smooth, glaucous: capsule ovate-4-angled, pedicelled.

linearis, Mx. (y. Ju. 2f.) wholly pubescent, slender: leaves linear, entire: capsules long-peduncled, roundish, 4-angled, villose.

caespitosa, Ph. (W. w. & r. Ju. 2f.) stemless, leaves lanceolate, gash-toothed: capsules oblong, sessile: tube of the calyx very long: petals 2-lobed, distant.

pinnatifida, N. (1) (W. w. J. ♂.) minutely pubescent: stem decumbent: radical leaves nearly entire; cauline ones pinnatifid; segments linear, acute: capsules prismatic, grooved. 6—24 i.

fraseri, Ph. (Ju. 2f.) nearly glabrous: stem simple below, branching above: leaves ovate, petioled, glandular-denticulate: racemes leafy: capsules pedicelled, obovate, 4-angled. K.

macrocarpa, Ph. (2) (W. y. Au. ♂.) nearly glabrous: stem branching: leaves lanceolate, petioled, distantly glandular-denticulate, white-silky on the margin and nerves: petals obcordate, with a point: capsules elliptic, 4-winged, very short pedicelled.

triloba, N. (W. y. M. ☉ & 2f.) stemless: leaves interruptedly pinnatifid, toothed, glabrous: petals 3-lobed at the apex: capsules 4-winged, large.

speciosa, N. (W. w. J. 2f.) finely pubescent: leaves lance-oblong, toothed, sub-pinnatafid: raceme naked, at first nodding: capsules obovate, angled: stem suffruticose.

linifolia, N. (W. y. J. ♂.) leaves entire; radical ones lanceolate; cauline ones linear, crowded: raceme naked, terminal: capsule obovate, angled, pubescent: petals obcordate, longer than the stamens: stigma 4-lobed.

(1) albicaulis, Ph. (2) alata, N.

serrulata, N. (W. y. J.) leaves linear, somewhat spinose serrate, acute: flowers axillary: leafets of the calyx keeled: stigma 4-lobed: capsules cylindric, erect: stem suffruticose. D.

humifusa, N. (w.) stem prostrate, branching, villous: leaves lance-linear, sub-dentate or entire, silky-villose: flowers axillary: calyx villose; tube a little longer than the germ: capsule prismatic.

suaveolens, D. (y.) stem, calyx, and capsule, sub-pilose: leaves lance-ovate, obsoletely toothed: petals large, emarginate: capsules elongated, furrowed, nearly uniform in thickness. Cultivated.

lamarkiana, (y.) stem ramose: leaves entire, lance-ovate: petals entire: large: capsules glabrous, short, somewhat 4-sided.

media, (y. 2[.) stem erect, hairy: leaves broad lance-linear, acute, toothed, soft pubescent: tube of the calyx long, hairy: petals margined, yellow.

viscosa, R. ( ) stem branching, decumbent, terete, viscous, downy: leaves sessile, lanceolate, nerved, tooth-sinuate: flowers axillary, sessile; petals obcordate: stigma 4-lobed: capsule cylindric, channelled. Louisiana.

Oldenlandia, HEDYOTIS.

2—1. O'LEA. 44. 34.

Southern.

americana, W. (american olive, devil's wood. L. w. M. ♄.) leaves lanceolate, elliptic, entire: racemes compressed: bracts all persistent, connate, small. Florida.

17—2. OMALAN'THUS. 49. 55.

camphoratus, Lep. (y.) leaves cut-bipinnate alternate: heads solitary or in corymbs: calyx campanulate, with the sepals in few series: receptacle convex. Resembles Tanacetum vulgare, but is much more robust. R. A.

21—1. ONOCLE'A. 55. 5.

sensibilis, (sensitive fern. W. J. 2[.) barren frond pinnate; fertile one doubly-pinnate: stem glabrous. The leafets slowly approach each other, on squeezing the stem in the hand. *S.* B. C. O. V.

obtusiloba, Sh. barren frond pinnate; fertile one doubly-pinnate: stem scaly. P.

Onoclea, STRUTHIOPTERIS.

17—1. ONOPOR'DON. 49. 54.

Exotic.

acanthium, (cotton thistle. p. Ju. ♂.) scales of the calyx spreading ev-

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Olea. Gr. *elaia*, the olive, (from *leibs*, smooth) on account of the qualities of the oil.

Omalanthus. Gr. *omalos*, equal, *anthos*, flower, as the flowers prove.

Onoclea. Gr. *onos*, a kind of vessel, and *kleiō*, to shut up alluding to the capsule.

Onopordon. Gr. *onos*, an ass, and *perdo*, same origin as the last syllable of puff ball (Lycoperdon.)

ery way, acuminate: leaves ovate-oblong, toothed-spinose, woolly. Naturalized. N. B.

5—1. ONOSMO'DIUM. 41. 43.

hispidum, Mx. (1) (false gromwell. y-w. J. 2ſ.) very hispid: leaves lance-oval, acute, pappillose-punctate; divisions of the corol subulate. 1—2 f. *S.* C. Y. T. D. O. N.

molle, Mx. (2) (w. Ju. 2ſ.) whitish-villose: leaves oblong-oval, somewhat 3-nerved; divisions of the corol sub-oval. *S.*

21—1. OPHIOGLOS'SUM. 55. 5.

vulgatum, (adder-tongue fern. W. M. 2ſ.) frond ovate, simple, obtuse, closely reticulate: spikes about an inch long, cauline. 8 i. Y. P. C. F.

bulbosum, W. (3) (W. M. 2ſ.) root bulbous: frond heart-ovate, obtuse: spike cauline. 6 i. *S.* Y.

Southern.

pusillum, N. ( ) spike cauline: frond cordate, acute. 1 i.

5—1. OPHIORHI'ZA. 47. 46.

Southern.

mitreola, W. (4) (w. Ju. ☼.) leaves ovate, sessile, with the margin scarious. 12—18 i. Charleston, S. C.

lanceolata, E. (5) (w. & p. Au. ☼.) leaves long-lanceolate, finely serrulate, tapering at the base. 18 i. Charleston, S. C.

Ophrys, EPIPACTIS.

15—5. OPLOTHE'CA. 14. 30.

Southern.

floridana, N. (O. w. Ju. 2ſ?) stem erect, sparingly branched above, pubescent, with tumid joints: leaves sessile, lance-linear, scabrous above, lanuginous beneath. 3—4 f.

Onosmodium. So named by Michaux, because it had some resemblance to Onosma, (a kind of borage.)

Ophioglossum. Gr. *ophis*, serpent, and *glossa*, tongue, from the shape of the spike.

Ophiorhiza. Gr. *ophis*, serpent, and *riza*, root, because the root is used as a specific against the bite of the viper in India.

Oplotheca. Gr. *oplon*, armour, and *theca*, sheath, referring to the armed covering of the seeds.

(1) Lithospermum virginianum, L. Pursh hispida, Sl. (2) Lithospermum carolinianum, Lk. (3) crotalopharoides, Wr. (4) ovalifolia, M. (5) mitreola, M.

Opuntia, CACTUS.

Orchidocarpum, PORCELLIA.

18—1. ORCHIS.* (1) 7. 21.

1. *Roots oval or palmate.*

spectabilis, W. (2) (gay orchis. O. r. M. 2f.) lip obovate, undivided, crenate, retuse: petals straight; lateral ones longest: spur clavate, shorter than the germ: bracts longer than the flowers: stem leafless. Leaves radical, oval, glabrous. 3—6 i. *S.*

flava, (y. Ju. 2f.) lip 3-cleft, entire; middle division larger, (ovate, entire, crenulate, N.) spur filiform, of the length of the germ: spike compact: bracts longer than the flower. 1—2 f. *S.* P.

obsoleta, W. (3) (J. 2f.) lip lance-oblong, undivided: bracts short: germ pedicelled: scape naked: spur obtuse, sub-inflated, as long as the germ: petals erect. P.

2. *Roots fascicled.*

virescens, W. (g. Ju. 2f.) lip lanceolate, crenate: petals connivent: bracts longer than the flowers: spur sub-inflated obtuse. 12—18 i. P.

hyperborea, W. (g-y. Ju. 2f.) lip lanceolate, as large as the spreading petals: spur subulate, shorter than the germ: spike ovate: bracts as long as the flowers.

obtusata, Ph. (2f.) lip linear, very entire, longer than the spur: spur as long as the germ: leaf solitary, radical, sub-wedge-form, obtuse.

rotundifolia, Ph. (2f.) lip 3-cleft; middle division 2-cleft: spur shorter than the germ: leaves roundish-oval. P. N.

Southern.

nivea, N. (w.) lip linear, oblong, entire: petals spreading: spur filiform, longer than the germ: lower leaves linear, very long; upper ones subulate.

viridis, (A. g-w. Ju.) lip linear, 3-toothed at the apex: petals connivent: spur obtuse, sub-inflated: bracts much longer than the flowers. 3 i.

bidentata, E. ( ) lip oval-oblong, 2-toothed at the base: petals ovate, spreading; spur shorter than the thickened germ: leaves narrow-lanceolate: stem nearly naked. 12—18 i.

Orchis. The Greek name of this plant.

(1) Some of the species here described may belong to the genus HABENARIA. (2) humilis, MX. (3) Satyrium, P.

*The havoc made in the ORCHIS FAMILY by wantonly dismembering it, requires this notice. 18 of our common species are taken from ORCHIS, and placed under HABENARIA—one under TIPULARIA, and this was once the Limodorum unifolium. From NEOTTIA, the *pubescens* is taken and put under GOODYERA. From EPIPACTIS, 3 species are put under LISTERA. From ARETHUSA, 3 species are placed under POGONIA, and one under TRIPHORA. The *hyemale*, (putty root, adam & eve) was taken from CYMBIDIUM and placed under CORALLORHIZA, and lastly is placed under APLECTRUM.

Orchis, Habenaria, Tipularia.

14—1. O'reas. 39. 63.

involucrata, Cham. (w. p. 2f.) small: leaves radical, petioled, glabrous: bracts crowded under the pedicels resembling an involucre: flowers in short racemes, bracted, pedicelled. A.

13—1. Orig'anum. 42. 42.

vulgare, (wild marjoram. r. Ju. 2f.) spikes round-panicled, heaped: bracts ovate, longer than the calyx. 1—2 f. *S.* T. C. F.

Exotic.

marjorana, (sweet marjoram. ♄.) spikes roundish, ternate, compact, peduncled: leaves petioled, oval obtuse, smoothish. 6—12 i.

6—1. Or'nithoga'lum. 10. 16.

bracteatum, T. & J. (W. p. 2f.) scape bracted, one-flowered, terete: petals lance-oblong, obtusish: filaments linear: leaves filiform, channelled. 4 i.

Exotic.

umbellatum, (star of bethlehem. M. 2f.) flowers corymbed, peduncles larger than the bracts: filaments subulate: leaves linear, entire, emarginate. Naturalized. 6—8 i.

Ornithogalum, Phalangium.

2—1. Or'nus. 44. 34.

americana, Ph. (M. ♄.) leafets broad-ovate, serrate; terminal one obcordate.

13—2. Oroban'che. 40. 36.

uniflora, (1) (squaw-root, broom rape, cancer-root. O. p-w. J. 2f.) scapes in pairs, naked, 1-flowered: corol recurved. About 3 inches high, of a yellowish white color. *S.*

americana, (p-y. Ju. 2f.) stem simple, covered with imbricate lance-oval scales: spikes terminal, glabrous: corol recurved: stamens exsert. Hardly a span high: brownish yellow. *S.* P. W. Y. H. N. Canada.

Southern.

ludoviciana, N. (W. p.) pulverulent-pubescent: stem low, simple: flow-

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Oreas. Gr. *oros*, *oreos*, of a mountain; on account of its habitation.

Origanum. Gr. *oron*, a mountain, and *ganos*, joy, in allusion to its habitation and agreeable fragrance.

Ornithogalum. Gr. *ornis (ornithos,)* a bird, and *gala*, milk; this is said to be the plant called dove's dung, in 2. Kings, 6. 25.

Ornus. Lat. *ornus*, the mountain ash, perhaps of *orns*, to adorn; or Gr. *oreinos*, from *oros*, a mountain.

Orobanche. Gr. *orobos*, the vetch, and *agchein*, to strangle, because it was thought to destroy whatever it grew on.

(1) biflora, N.

ers and ovate acute scales sub-imbricate: calyx 2-bracted: corol recurved: stamens inclosed, smooth. 3—4 i.

fasciculata, N. (W. p. Ju.) stem short, simple: peduncles numerous, naked, nearly terminal, about the length of the stem: scales few, ovate, concave, pubescent. 4—5 i.

Orobanche, EPIPHEGUS.

16—10. O'ROBUS. 32. 93.

Southern.

dispar, N. (bitter vetch. W. w-y. J. 2ℓ.) leaves unequally pinnate; leaflets linear, obtuse: stipules ovate, acute: racemes sessile, filiform, (2—3 together.)

Orobus, PSORALEA.

6—1. OROS'TIUM. 2. 7.

aquaticum, (golden club. y. M. 2ℓ.) leaves lance-ovate: spike cylindric, on a scape. 12—20 i. *S.* P. Y. C. F. M.

13—2. OR'THOCAR'PUS. 40. 36.

Southern.

luteus, N. (W. y. Ju.) stem simple, terete, hirsute-pilose: leaves alternate, sessile, lance-linear, acute, entire; upper ones gradually larger: calyx, bracts and leaves viscid-pubescent. 12—14 i.

3—2. OR'THOPO'GON. 4. 10.

Southern.

hirtellum, (1) (Au. 2ℓ.) spike compound: spikelets appressed, alternate; valves of the calyx all awned, outer awn very long. Procumbent.

6—2. ORY'ZA. 4. 10.

Exotic.

sativa, (rice ☼.) culm jointed: leaves clasping: panicle terminal.

3—2. ORYZOP'SIS. 4. 10.

asperifolia, Mx. (mountain rice. M. 2ℓ.) culm nakedish: leaves rigid,

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Orobus. Gr. *orobos*, the vetch, of *orō*, to excite, and *bous*, an ox, because cattle feeding upon it were thought to become furious. Others derive it from Gr. *ereptō*, to eat.

Orontium. Gr. *orontion*, said to be from the river Orontes in Asia Minor, wherefrom came the original plant.

Orthocarpus. Gr. *orthos*, straight, and *karpos*, fruit, by which it is distinguished from Melampyrum.

Orthopogon. Gr. *orthos*, straight, and *pōgōn*, beard, referring to the straight beards of the flowers.

Oryza. Gr. *oruza*, rice, from the Arabic *êruz*.

Oryzopsis. Gr. *oruza*, rice, and *opsis*, resemblance. The plant resembles rice.

(1) Panicum, L.

erect, pungent at the point: flowers in a racemose panicle. 18 i. C. M. T. N.

Osmorhiza, URASPERMUM.

21—1. OSMUN'DA. 55. 5.

cinnamomea, Mx. (flowering fern. O. y. J. 2f.) barren frond doubly pinnatifid: segments oval, entire: fertile fronds with opposite racemes, woolly. 3—6 f. *S.*

interrupta, Mx. (O. g-y. J. 2f.) barren leafets on the frond, with the fertile ones above and below and sometimes among them. Damp.

regalis, Mx. (1) (O. r-y. J. 2f.) frond bipinnate, terminating in several racemes, very branching, without hairs. Wet.

claytoniana, W. (2f.) fronds pinnate, bearing fruit at the summit; pinnae pinnatifid, having small dense masses of fulvous down at their origin. 20—30 i. Found in Cambridge, N. Y. by Dr. M. Stevenson. Stillwater, N. Y. Dr. Fitch.

19—12. OS'TRYA. 50. 99.

virginica, A. (2) (iron-wood, hop hornbeam, lever wood. O. g. M. ♄.) leaves ovate-oblong, sub-cordate, acuminate, unequally serrate: strobiles oblong-ovate, pendulous, (erect, Ph.) buds acute. 20—40 f. *S.*

10—5. OX'ALIS. 14. 73.

acetosella, (wood-sorrel. w. r. M. 2f.) stemless: scape 1-flowered, longer than the leaves: leaves ternate, broad obcordate, with rounded lobes: styles as long as the inner stamens; root dentate. T. Y. C. O. N.

violacea, (violet wood-sorrel. W. p. J. 2f.) stemless: scape umbelliferous: pedicels sub-pubescent: flowers nodding: leaves ternate, obcordate, glabrous: divisions of the calyx callous at the apex: styles shorter than the outer stamens. Damp. *S.* T. Y. C. P. F. M. N.

stricta, (yellow wood-sorrel. O. y. J. ☉.) hirsute: stem erect, branching: peduncles umbelliferous: leaves ternate, obcordate: petals obovate: styles of the length of the inner stamens. 6—12 i. *S.* R.

corniculata, (lady's wood-sorrel. W. y. M. ☉.) pubescent: stem branching, diffused, or procumbent: umbels as long as the petioles: leaves ternate, obcordate: petals wedge-form, erose at the apex: styles of the length of the inner stamens. *S.* P. D. Y. F. R. Florida.

trilliifolia, Hk. (W.) stemless: peduncles umbelliferous, equalling the petiole: leaves ternate; leafets obcordate, glabrous: styles of the length of the inner stamens. R.

Southern.

lyoni, Ph. (y. J. 2f.) silky-pilose: stem branching, decumbent: peduncles 2-flowered, longer than the petioles: leaves ternate, obcordate-2-lobed; lobes round, divaricate: petals wedge-form: capsules tomen-

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Osmunda. A word of northern origin, relating to medical powers.

Ostrya. Gr. *ostrus*, or *ostrua*, said to be from *ostreon*, a shell, from the resemblance found in its capsules.

Oxalis. Gr. *oxus*, sour, referring to its acid leaves.

(1) spectabilis, W. (2) Carpinus, Lk.

tose, twice as long as the lanceolate calyx. A variety of O. stricta? Elliott.

dillenii, W. (W. y. ☉.) hirsute: stem leafy, erect, rough: umbels longer than the leaves: leaves ternate, obcordate: petals emarginate. A variety of stricta? Nuttall.

recurva, E. (W. M. 2ℓ?) pilose: stem erect: umbels longer than the leaves: petals obtuse: stamens longer than the calyx: styles very short, recurved: stigmas simple. 4—8 i.

furcata, E. (1) (Ap. 2ℓ.) very pilose: stem erect, branching: petals subemarginate: style as long as the inner stamens: stigmas forked. 3—6 i.

Oxybaphus, Allionia.

8—1. Oxycoc'cus. 18—51.

macrocarpus, P. (2) craneberry. O. r. J. ♄.) creeping: stem ascending: leaves oblong, flattish, obtuse, becoming white beneath: pedicels elongated: divisions of the corol lance-linear. Wet. *S.*

vulgaris, Ph. (3) (low craneberry. r. J. ♄.) creeping: leaves oval, entire; margin revolute, sub-acute, becoming white beneath; peduncles elongated: divisions of the corol oval. Wet. Probably a variety of the first. T. C. D. F.

Southern.

erythrocarpus, Mx. (4) (A. J. ♄.) erect: leaves oval, acuminate, serrulate; ciliate: pedicels axillary: corol long, at length revolute.

Oxycoccus, Gaultheria.

3—2. Oxyde'nia. 4. 10.
Southern.

attenuata, N. (5) (W. Au. ☉.) panicle simple: spikes very long, numerous, attenuated, somewhat sub-divided near the base: spikelets about 3-flowered: leaves flat, subulate at the point, and with the sheaths scattered with glandulous hairs. 2—3 f. K.

6—2. Oxy'ria. 12. 28.

reniformis, Br. (6) (A. J. 2ℓ.) outer leaves of the calyx oblong, half the length of the inner obovate valves: radical leaves reniform, long-petioled: stamens 2: styles 2. 2—3 i. *S.*

16—10. Ox'ytro'pis. 32. 93.

uralensis, Dc. (r-w.) stemless, villose or silky: leafets lance-oblong:

Oxycoccus. Gr. *oxus*, sour, and *kokkus*, berry, on account of its acidity.
Oxydenia. Gr. *oxus*, sour, and *adēn*, gland, from an acid which comes from the pubescence.
Oxyria. From Gr. *oxus*, acid, in allusion to the qualities of its leaves.
Oxytropis. From Gr. *oxus*, pointed, and *tropis*, a keel.

(1) dillenii, Ph? (2) Vaccinium macrocarpon, A. Var. oblongifolius, Mx. (3) palustris, 2d ed. P. Vaccinium oxycoccus, Mx. (4) erectus, Ph. Vaccinium, Mx. (5) Eleusine mucronata, Mx? (6) Rumex digynus, L.

scapes longer than the leaves, scape and calyx hirsute-woolly, little heads many-flowered, ovate; flowers spreading: lower bracts longer than the calyx. R. A.

arctica, Br. (r-w.) scarcely stemless, silky: stipules petioled: leafets opposite and alternate, oval-oblong: little heads sub-umbelled, few-flowered: legumes erect, oblong, acuminate: calyx and legume with black pubescence. R. A.

campestris, Hk. (W. y.) stemless: leafets many-paired, lanceolate silky: scape often decumbent, sub-equal to the leaves: spikes capitate or elongated: bracts a little shorter than the calyx: flowers erect: legumes erect, ovate, inflated, pubescent. R.

splendens, Hk. (W.) stemless: leafets 3 or 4, whorled, lanceolate, very acute, silk-hairy: scape longer than the leaves; scape and petioles with spreading hairs: spikes elongated: flowers longer than the bracts. Red River. R.

lambertii, Ph. (W. p. Ju. 2ſ.) stemless, silky-pilose: leafets numerous, lance-oblong, acute at each end: scape about equal to the leaves: spikes oblong-capitate: bracts lance-linear, about equal to the calyx. R. Red River.

lagopus, N. (b. 2ſ.) low: somewhat stemless, silk-woolly: leafets oblong-elliptic, somewhat 4-paired: little head sub-umbelled: calyx canescent; dense-woolly, longer than the ovate bracts: germs glabrous. R.

borealis, Dc. ( ) somewhat stemless: hairs of the scape and stipules setose, spreading, those of the petioles few: leafets lance-oval, glabrous below, hairy above: scapes of the length of the leaves: flowers in heads: bracts of the length of the darkly [illegible] hispid calyx. A.

foliolosa, (2ſ.) stemless: hoary villose: leaves numerous: leafets approximate, ovate or oblong-ovate sub-acute: scapes pilose, longer than the leaves: little heads broad-ovate (small): flowers crowded spreading, lower ones reflexed: bracts lance-linear, shorter than the dark hirsute calyx: legumes remotish, deflexed, cylindrical, acute, dark hirsute. R. A.

argentata, Ph. (W) stemless: leafets lance-obovate: silky-silvery: scapes equalling the leaves: flowers in heads; bracts lanceolate, of the length of the silky calyx. A.

nigrescens, Dc. ( ) subacaulis: many edged; leafets (7—11) oval, acutish, villose: stipules and calyx dark-villose: peduncles 2-flowered, of the length of the leaves: legumes oblong, inflated, pubescent, 1-celled. A.

Oxytropis, ASTRAGALUS.

P.

19—4. PACHYSAN'DRA. 38. 96.

Southern.

procumbens, Mx. (W. A. g-w. J. 2ſ.) stem procumbent: leaves short, oval, crenate-toothed above: calyx minute-ciliate: capsule finely pubescent.

Pachysandra. Gr. *pachus*, thick, clumsy, and *aner (andros)* stamen; from their size.

12—3. Pæo'nia. 36. 61.

Exotic.

officinalis, (peony. r. J. 2f.) leaves decompound; leafets lobed, lobes broad-lanceolate; capsules downy.

5—2. Pa'nax. 46. 59.

trifolia, (dwarf ground-nut. W. w. 2f.) leaves in threes, ternate, or quinate; leafets serrate, lance-oblong, sub-sessile; root tuberous, roundish. Styles generally three. Root round-tuberous, and very deep in the earth in proportion to the size of the plant. 6—9 i. *S.* B. P. C. D. F. O. N. T. V. K.

quinquefolia, (ginseng. W. A. w. M. 2f.) root fusiform: leaves ternate, quinate: leafets oval, acuminate, petioled, serrate. Larger than the last. 1—2 f. *S.* T. N. F. D. B. C. O. V.

horridum, S. ( ) fruticose, somewhat creeping, all over aculeate: leaves palmate lobed, gash-serrate: umbels capitate, racemed: styles and seeds 2. 10—12 f. R. A.

6—1. Pancra'tium. 9. 17.

Southern.

mexicanum, W. (w. M. 2f.) spathe about 2-flowered: leaves lance-oblong: 6 teeth of the nectary, staminiferous; 6 intermediate, simple. 18—24 i.

maritimum, W. (w. Ju. 2f.) spathe many-flowered: leaves lance-linear: nectary with 12 teeth, not staminiferous. 12—18 i.

rotatum, Ker. (W. w. Ju. 2f.) spathe many-flowered: leaves lance-linear: nectary salver-form, tubular below, with 6 stamen-bearing teeth; intermediate one gash-toothed: stamens twice as long as the nectary.

3—2. Pan'icum. 4. 10.

crus-galli, (2) barn grass. O. Au. ☺.) racemes alternate and in pairs, compound: rachis 5-angled: glumes terminating in hispid bristles: sheath glabrous. 2—4 f. *S.*

hispidum, M. (3) (L. S. ☺.) panicle compound, nodding: racemes alternate; glumes terminating in hispid bristles: sheath hispid. 3—4 f. *S.* Y. O.

clandesti'num, (4) (W. Au. 2f.) culm with short axillary branches: leaves broad-lanceolate, cordate at the base: sheaths hispid enclosing

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Pæonia. Said to be named from Pæon, who, according to Mythology, cured Pluto with it.

Panax. Gr. *panax*, or *panakes*, from *pan*, all, and *akos*, medicine, being supposed an universal panacea by the Chinese.

Pancratium. Gr. *pan*, all, and *krates*, to overcome, in allusion to its powerful medical effects.

Panicum. Lat. *panicum*, from *paniculus*, in allusion to the great number of panicles, or from Lat. *panis*, bread.

(1) carolinianum, L. (2) Echinochloa crus-galli, Rs. (3) walteri, Ph. crusgalli, V. hispidum, E.
(4) latifolium. Var. clandestinum, Ph.

the short panicles abortive floret neutral, 2-valved; upper valve obtuse. 2—3 f. O. N.

pedunculatum, T. (Ju. 2ℓ.) culm dichotomous: leaves broad lanceolate, sub-pilose above, attenuate: sheaths hispid and papillose: panicle long peduncled, compound, smooth: spikelets ovate, smooth: abortive floret 2-valved: upper valve half the length of the lower one. 3—4 f.

latifolium, (W. Ju. 2ℓ.) culm generally simple, bearded at the joints: leaves lance-oblong, smooth, or with the sheaths somewhat pubescent: panicle terminal, a little exsert, simple, pubescent: spikelets oblong-ovate: abortive floret antheriferous. 2-valved; upper valve sub-herbaceous, nearly as long as the lower, acute. 1 f. *S.* B. P. C. O. N.

scoparium, Lk. (2ℓ.) softly villose: leaves lanceolate: panicle erect, compound, setaceous, much branched: spikelets turgid, ovate, pubescent. 2 f. *S.* P. Y.

nervosum, M. (Ju. 2ℓ.) culm simple: nodes smooth: leaves broad-lanceolate, smooth, sub-ciliate on the margin: panicle much branched, smooth, many-flowered; spikelets oblong: abortive floret antheriferous, with the upper valve sub-herbaceous, shorter than the lower one. 3—4 f. *S.* Y. B. P. N.

macrocarpon, T. (2ℓ.) culm erect, simple: leaves lance-linear, erect, a little hairy beneath: joints naked: sheaths hispid: panicle rather compound, smooth: spikelets ovate-globose: abortive floret neutral. 3 f. Y. N.

pubescens, Lk. (J. 2ℓ.) erect, much branched, leafy, soft pubescent: leaves lanceolate, ciliate: panicle small, few-flowered, free; spikelets sub-globose-obovate, pubescent. 18 i. *S.* P. Y. O.

involutum, T. (2ℓ.) culm cespitose, simple, or a little branched at the base: leaves erect, somewhat rigid, very narrow, at length involute: panicle simple, few-flowered: florets acuminate: upper valve of the neutral floret very small. 1 f. N.

depauperatum, M. (J. 2ℓ.) culm cespitose, hairy at the joints: leaves lance-linear, smooth or hairy: sheaths pubescent: panicle few-flowered; branches in pairs; one of them 2-flowered, the other 1-flowered. 1 f. P. V. N.

dichotomum, (W. Au. 2ℓ.) culm much branched, dichotomous above; branches fascicled: leaves numerous, smooth, lanceolate: panicle simple, capillary, lax: abortive floret neutral; upper valve minute, 2-cleft. Var. *curvatum*, culm very tall, rather rigid; branches few, somewhat curved. Var. *fasciculatum*, culm low, erect, or decumbent; branches and leaves dense-fascicled: panicles very small, concealed among the leaves. Var. *gracile*, culm tall, slender, leaves membranaceous. 8—16 i. *S.* P. Y. B. C. O. H. N.

nitidum, Lk. (panic grass. W. Ju. 2ℓ.) culm slender, simple, erect, smooth: sheath bearded at the throat: leaves few, remote, broad-linear; panicle capillary, rather crowded, compound, smooth; spikelets minute, obtuse, ovate, sub-pubescent: lower glume very small. Var. *ciliatum*, culm hairy, leaves lance-linear, (lower ones broader) sparingly hirsute, ciliate on the margin, panicle with the branches and flowers pubescent. Var. *ramulosum*, culm more branched: panicle contracted; branches smooth. Var. *gracile*, culm very slender, smooth: leaves very narrow, smooth: sheaths smooth: panicle sub-simple,

few-flowered, smooth: upper valve of the abortive floret minute, entire? Var. *pilosum*, culm simple, very hairy: lower leaves approximate and broad-lanceolate: upper ones linear, rather rigid, sub-pilose above, ciliate at the base: sheaths villose, minutely papillose: panicle sub-contracted; branches virgate, with the flowers pubescent. Var. *glabrum*, (1) smooth all over except the base of the leaves, nearly simple: lower leaves short, approximate, sub-cartilaginous; panicle branched, almost verticillate: spikelets large: upper valve of the abortive floret entire. Var. *barbatum*. (2) culm simple, smooth; nodes hairy: leaves lance-linear: sheaths smooth, except on the margin; panicle sub-simple, smooth: flowers minute, pubescent. 1—2 f. P. Y. T. B. C. O. H. M. N.

agrostoides, M. (3) (W. Au. 2ℓ.) culm compressed, smooth, erect: leaves very long: panicles lateral and terminal, pyramidal, spreading; branches racemiferous: spikelets appressed: valves of the abortive floret neutral, valves nearly equal. 2—3 f. P. Y. M. N. K.

virgatum, (W. Au. 2ℓ.) all over very smooth: panicle diffuse, very large: flowers acuminate: abortive floret nearly equal. 3—4 f. *S.* B. O. C. N.

anceps, Mx. (4) (Au. 2ℓ.) culm compressed: sheaths ancipitous, pilose: panicle with nearly simple branches: spikelets sub-racemose, much acuminate: abortive floret neutral; upper valve 2-cleft. 3 f. *S.* P.

rectum, R. & S. (5) (Ju.) panicle solitary, shorter than the terminal leaf: branches simple, flexuous: spikelets alternate, pedunculed, obovate, turgid: glumes striate, acute: leaves linear, straight, tapering to a sharp point, striate and scabrous above, hairy beneath: sheaths with very long hairs. P. M.

verruco'sum, M. (6) (Au. 2ℓ.) culm slender, decumbent and geniculate, branched below, smooth: leaves smooth: panicle very spreading, few-flowered: flowers verrucose: abortive floret 1-valved. 18 i. *S.* Y.

prolif'erum, Lk. (7) (W. S. ☉.) culm assurgent, geniculate at the base, very smooth; panicles terminal, and axillary, smooth: spikelets racemose: abortive floret 1-valved. 2—4 f. *S.* P. Y. C. K.

capilla're, (W. S. ☉.) culm nearly simple: sheaths very hairy: panicle large, capillary, expanding, loose: spikelets long-peduncled, acuminate, smooth; abortive floret 1-valved. Var. *sylvaticum*, culm branched at the base, very slender: leaves linear, 1—2 f. *S.* T. N.

longifolium, T. (S. 2ℓ.) very smooth: culm compressed, erect, simple, slender: leaves very long, narrow: panicle simple, elongated, racemose: spikelets acuminate; abortive floret neuter, 2-valved. 2 f.

nodiflorum, Lk. (Ju.) panicles very small, lateral and terminal: glumes ovate, pubescent: leaves narrow, short, bearded at the throat. B.

ciliatum, E. (J. 2ℓ.) stem decumbent: panicle few-flowered, expanding: leaves short, lanceolate, and with the sheaths glabrous and finely ciliate. 8—15 i. *S.* P.

pauciflorum, E. (J. 2ℓ.) panicle expanding, few-flowered: flowers very large: leaves narrow-lanceolate, ciliate at the base: sheaths hairy. 12—18 i. *S.* P.

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(1) nitidum, Sz. (2) discolor, M. (3) elongatum, Ph. (4) rostratum, M. (5) strictum, Ph. (6) debile, E. (7) dichotomiflorum, Mx. geniculatum, M.

Southern.

fus'co-ru'bens, Lk. (Au.) racemes linear, virgate: glumes clavate, colored: hairy under the divisions of the panicle.

striatum, Lk. ( ) panicle oblong: glumes large, glabrous, green, handsomely striate.

diffusum, Sw. (Ju.) panicle simple, capillary, expanding: florets remote, acute: stem simple: leaves long-linear, with the throat and sheaths villous.

gibbum, E. (Ju. ☉?) racemes many-flowered, appressed, resembling a columnar spike: valves of the calyx strongly nerved, the exterior gibbous at the base: flowers caducous.

molle, Mx. (Au. 2f.) spikes panicled, alternate, expanding, one-sided: spikelets approximate, pedicelled, secund, awnless. 4—6 f.

gym'nocar'pon, E. (Au. 2f.) spikes panicled: spikelets in 2 rows, few-flowered: valves of the calyx sub-equal, expanding, much longer than the corol. 2—4 f.

kians, E. (Au. ☉?) stem glabrous, slender, decumbent: panicle racemose: valves of the neutral floret long, concave, gaping. 10—15 i.

amarum, E. (Oc. ☉?) very glabrous: leaves thick, glaucous: panicle appressed: glumes acuminate. 2—3 f.

scabriusculum, E. ( ) stem erect, large, and with the under surface of the leaves scabrous: panicle large, pyramidal, expanding: flowers ovate, acute, glabrous. 2—3 f.

multiflorum, E. (J. 2f.) stem erect, simple, glabrous: leaves broad-lanceolate, hairy at the base: panicle very branching, spreading: flowers small, pubescent. 24—30 i.

ovale, E.( ) pubescent: panicle diffused: flowers oblong, oval, hairy: leaves lance-ovate, sub-cordate. 1—2 f.

lanuginosum, E. (2f.) pubescent: panicle diffused, somewhat capillary: flowers oval, small: leaves narrow lanceolate: sheaths villous at the throat. 1—2 f.

viscidum, E. (J. 2f.) very downy, hoary, glutinous: stem beneath each joint marked with a smooth ring. 2—4 f.

villosum, E. (M. 2f.) villose: stem erect somewhat branched: panicle few-flowered: flowers obovate: leaves erect, flat, rigid. 1—2 f.

sphae'rocarpum, E. (Ap. 2f.) leaves lance-linear, very acute, base and sheath ciliate: panicle spreading; flowers small, roundish, pubescent. 12—18 i.

ensifolium, Bald. (M. 2f.) small, glabrous: leaves lance-ovate, very acute, spreading: panicle small, few-flowered: flowers sub-ovate, pubescent. 12—18 i.

barbulatum, Mx. (J. 2f.) panicle compound, spreading: leaves lance-ovate, sub-acuminate, sub-divaricate: joints of the stem bearded.

melicarium, Mx. ( ) stem weak: leaves narrow: panicle contracted; glumes membranaceous, lanceolate, nearly equal: rudiments of a floret on a short footstalk.

angustifolium, E. (M.?) panicle few-flowered, spreading: leaves scattered, lance-linear, glabrous beneath, sparingly ciliate. 1—3 f.

divergens, E. (Au. 2f.) stem assurgent, fragile: panicle diffuse: flowers small, solitary, very long peduncled. 1 f.

laxiflorum, Lk. (W. ☉.) panicle spreading, lax, pilose: glumes scattered, obtuse, pubescent.

microcarpum, M. ( ) panicle capillary, very branching, expanding: flowers oval, minute, glabrous: leaves lance-linear, very glabrous.

Panicum, PENNISETUM.

12—1. PAPA'VER. 27. 62.

nudicaule, W. (yellow poppy. y. ♂.) capsule hispid: scape 1-flowered, naked, hispid: leaves sub-pinnate; leafets lanceolate; lower ones somewhat gashed. R. Labrador.

Exotic.

rheas, (wild poppy. r. J. ☉.) capsules glabrous, sub-globose: stem many-flowered, pilose, with the hairs spreading: leaves gash-pinnatifid. Naturalized.

somniferum, (opium poppy. J. ☉.) calyx and capsule glabrous: leaves clasping, gashed, glaucous.

bracteata, Lind. (r. J.) capsules smooth: stem one-flowered, rough: leaves scabrous: pinnate-serrate: flowers subtended by leafy bracts. 3 f.

19—4. PARIETA'RIA. 53. 98.

pennsylvanica, (pellitory. W. J. ☉.) leaves lance-oblong, veiny, with opake punctures: involucre 3-leaved, longer than the flower. 12—15 i. S. N. D.

Southern.

floridana, N. (J.) leaves ovate, roundish, obtuse, opake, dotted: flowers, clustered, as long as the involucre: stem assurgent. 12—18 i.

5—4. PARNAS'SIA. 14. 84.

americana, M. (1) (flowering plantain, parnassus grass. w. y. p. Ju. 2ℓ.) leaves radical (often a leaf on the scape) heart orbicular, 5 to 9-nerved: nectaries five, each divided into 3 filaments terminated by little spherical heads. Damp or wet. 6—18 i. S. T. W. V. Y. P. C. D. N. F. O.

palustris, (w-y. Ju.) scales numerous, slender bristles: leaves all cordate; cauline ones sessile. Canada, Labrador.

parviflora, Dc. (W.) very slender, with slender bristly scales, about 5: radical leaves ovate, tapering into the petiole; cauline ones linear-oblong, sessile. R.

carōliniana, Mx. ( ) scales three, thick bristles: leaves all broad-ovate or oval; cauline ones sessile. Canada, N. W. Lakes. Is this a variety of americana?

kotzebuii, Hk. (W.) scales three, slender bristles: radical and cauline leaves heart-ovate: petals somewhat 3-nerved, shorter than the calyx.

fimbriata, Hk. (W.) scales broad wedge-form, fleshy, crenate, in the

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Papaver. Lat. *papaver*, from Celtic *papa*, pap, because it was given to infants to induce sleep.

Parietaria. Lat. *paries (tis)* a wall, in allusion to the place of its growth, which is on old walls and ruins.

Parnassia. From the famous Mt. Parnassus, its place of growth.

(1) caroliniana? Mx.

middle, within keeled, naked: radical leaves long-petioled, ear-kidney-form, cauline ones cordate, sessile, inserted much above the middle: petals fringed at the base. R.

Southern.

asarifolia, Vent. (A. Au. 2ſ.) radical leaves reniform: petals clawed: nectaries 3-cleft.

Paronychia, QUERIA.

14—2. PARRYA. 39. 63.

macrocarpa, Br. ( ) siliques broad-linear: anthers linear: leaves broad-lanceolate, gash-toothed. Var. *aspera*, pilose glandulous. Var. *glabra*, whole plant glabrous. A.

arctica, Br. ( ) siliques linear-oblong: anthers oval: leaves very entire: peduncles very glabrous. A. Melville Island.

Parrya, HESPERIS.

17—4. PARTHE'NIUM. 49. 55.

integrifolium, (W. A. w. S. 2ſ.) leaves oblong, unequally toothed, rough: upper ones clasping. 1—2 f. H.

3—2. PAS'PALUM. 4. 10.

ciliatifolium, Mx. (1) (W. S. 2ſ.) culm decumbent: leaves hairy, ciliate: sheaths hairy: spikes 1—2, rather lax, indistinctly 3-rowed. 18 i. S. P. Y. H. M.

setaceum, Mx. (2) (paspalon grass. 2ſ.) culm erect: leaves and sheaths villous: spikes sub-solitary: flowers in 2-rows. 1—2 f. S. P. C. N.

laeve, Mx. (W. S. 2ſ.) erect, very smooth: leaves short: spikes numerous, (3—6,) alternate: flowers 2-rowed, smooth. 2 f. S. P.

stoloniferum, Bosc. (Au.) spikes in elongated racemes, somewhat whorled spreading: flowers serrulate-ciliate, transversely rugose: leaves short, sub-cordate: culm procumbent at the base. 2 f. Y.

Southern.

debile, Mx. ( ) stem weak: leaves and stem hairy: spike generally one, slender: flowers alternate, one-rowed.

floridanum, Mx. (Au.) stem erect: lower leaves very villose; upper ones scabrous, pilose: sheaths very long: spikes few: flowers in 2 rows, glabrous, large. Var. *glabrum*, upper leaves glabrous. 3—4 f.

plicatulum, Mx. ( ) glabrous: stem erect: leaves long, narrow: spikes numerous, alternate, erect: flowers in 3 rows: the flat valve transversely plaited near the margins.

praecox, Wr. (Ju.) stem erect: leaves lance-linear, glabrous: spikes numerous, alternate: rachis narrow, hairy at the base: flowers in 3 rows.

Parrya. In honor of a celebrated voyager in the Arctic seas.

Parthenium. Gr, *parthenos*, a virgin, from its efficacy in some diseases.

Paspalum. Gr. *paspalos*, millet, which this plant resembles in its seeds.

(1) ciliatum, Ph. dasyphyllum, E. (2) pubescens, M.

purpurascens, E. (Au.) stem erectish: leaves long, purplish, hairy at the throat; spikes numerous, villose at the base: flowers in 4 rows.

distichum, Wr. (Ju. 2ſ.) stem creeping: leaves short, sub-glaucous, shining: spikes 2, one sessile: glumes lanceolate.

vaginatum, E. (Ju.) very glabrous: stem creeping, branching: leaves linear: spikes generally 2, terminal, sheathed by a terminal leaf. 12—18 i.

15—5. PASSIFLO'RA. 34. 97.

lutea, (yellow passion-flower. W. y. S. 2ſ.) leaves cordate, 3-lobed, obtuse, glabrous: petioles glandless: peduncles axillary, in pairs: petals much narrower than the calyx. P. M. Charleston, S. C.

incarnata, W. (W. w. & p. Ju. 2ſ.) leaves 3-lobed, serrate; lobes oblong. acute: petioles with two glands: involucre 3-leaved; leaves lanceolate, glandular-dentate: threads of the crown longer than the corol. Florida.

Exotic.

cærulea, (blue passion-flower. b. Ju. ♄.) leaves palmate, 5-parted, entire: petioles glandular: involucre 3-leaved, entire: threads of the crown shorter than the corol.

ala'ta, (winged passion-flower. Oc. ♄.) leaves oblong ovate, subcordate, entire, veiny: petioles with 4 glands: stipules lance-falcate, subserrate: involucre 3-leaved: stem 4-cornered, membranaceous.

Southern.

peltata, W. (♄.) leaves peltate, deeply 3-lobed, glabrous: lobes lance-linear, divaricate: petioles with 2 glands: peduncles solitary, axillary: petals 0.

warei, N. (2ſ.) lower leaves 3-lobed, acute: upper ones undivided, ovate: petioles with 2 glands: peduncles somewhat in pairs. 4—6 i.

5—2. PASTINA'CA. 45. 60.

sativa, (parsnip. y. Au. ♂.) leaves simply pinnate: leafets glabrous. Var. ***arvensis***, leafets sub-pubescent. This variety is often found in situations which almost prove it to be indigenous. Found native among the Rocky Mts.

Pastinaca, ŒNANTHE.

3—1. PATRIN'IA. 48. 56.

ceratophylla, H. (w.) stem very glabrous: leaves all somewhat fleshy, pubescent, petioled; radical ones lance-linear, entire or pinnate, or parted bipinnate, lobes divaricate: cauline leaves deeply pinnatifid, divisions linear: panicle elongated; peduncles ternate-verticillate. R.

longifolia, McNab.* (w.) stem very glabrous: leaves ciliate, lanceolate, entire or remotely pinnatifid, somewhat parallel nerved; radical

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Passiflora. Altered by Linneus, from *flos passionis*, or passion flower.

Pastinaca. Lat. *pastinum*, a forked tool, which the roots resemble.

Patrinia. In honor of M. Patrin, a French Botanist.

*A very intelligent young Scotch Botanist who collected plants in our Lake country, in 1834.

ones very longly attenuated below; cauline ones very few, narrow: panicle crowded (when immature.) 4 i. On the banks of the Maitland river, near Goderich, U. Canada.

Pavia, Aesculus.

17—2. Pec'tis. 49. 55.

angustifolius, T. & J. (A. y. ☺.) stem branching at the base, diffuse: leaves narrow-linear, mucronate, denticulate at the base; teeth terminating in hairs: flowers terminal, solitary, short peduncled: calyx 8-leaved: chaff short, 5-toothed. 1—2 i.

13—2. Pedicula'ris. 40. 36.

canadensis, (louse-wort. O. y-p. p-w. M. 2ℓ.) stem simple: leaves pinnatifid, gash-toothed: heads leafy at the base, hirsute: corol with a setaceous, 2-toothed upper lip: calyx obliquely truncate. 6—12 i. *S.*

gladiata, Mx. (high heal-all. y-p. J. 2ℓ.) stem simple: leaves lanceolate, pinnatifid, toothed: spikes leafy, with alternate florets: capsules lengthened into an exsert, sword-mucronate-form. 1—2 f. *S.* T. Y. C. N. P. D.

pallida, P. (1) (y. Ju. 2ℓ.) stem branching, tall: leaves sub-opposite, lanceolate, crenate, toothed: spikes leafless, glabrous, upper lip of the corol obtuse: calyx 2-cleft, roundish. 2—3 f. *S.* T. C. Y. P. Niagara.

resupinata, W. (p. Ju. 2ℓ.) stem simple, glabrous: leaves lanceolate, toothed, crenate: calyx bifid-truncate: upper lip of the corol acute. P. Canada.

hirsuta, (r. 2ℓ.) stem simple: leaves pinnate; leafets lanceolate, obtusely toothed: calyx hirsute, 5-cleft: upper lip of the corol very obtuse.

euphrasioides, W. (y. 2ℓ.) stem branching, pubescent: leaves pinnatifid, toothed: calyx tubular, 2-parted, truncate: upper lip of the corol 2-toothed. Labrador. 6—8 i.

recuti'ta, W. (W. p. Ju. 2ℓ.) stem simple: leaves deeply pinnatifid; divisions lanceolate, pinnatifid-toothed: spike compact, leafy: calyx glabrous, 5-toothed: upper lip of the corol very obtuse.

elata, W. (W. p. Ju. 2ℓ.) stem simple: leaves deeply pinnatifid; divisions lance-linear, crenate: spike lax, somewhat leafy: calyx glabrous, 5-toothed: upper lip of the corol obtuse, truncate. 2 f.

lapponica, W. (y. Ju. 2ℓ.) stem simple; leaves pinnatifid; divisions serrate: calyx 2-cleft, oblong: upper lip of the corol uncinate, truncate. Labrador.

groenlandica, W. (W. p. Ju. 2ℓ.) stem simple: leaves deeply pinnatifid; divisions lanceolate, acuminate, serrate: calyx glabrous, 5-toothed; corol closed; upper lip uncinate-subulate.

verticilla'ta, Ph. (W. p. 2ℓ.) stem simple: cauline leaves deeply pinnatifid in fours: divisions linear, acutely toothed: spike capitate, involucred: calyx villose, 5-cleft: upper lip of the corol very obtuse. 2 i.

Pectis. From *pecten*, a comb, to which the teeth of the pappus or the fringed bases of the leaves of P. ciliaris may be compared.

Pedicularis. Lat. *pediculus*, a louse, because it is said to destroy lice.

(1) serotina, M. lanceolata, Mx.

flam'mea, W. (y. & r. 2ℓ.) stem simple: leaves pinnate; leafets imbricate, ovate, obtuse, doubly toothed: calyx 5-toothed: upper lip of the corol obtuse. Labrador. 3 f.

15—7. PELARGO'NIUM. 14. 73.

Exotic.

1. *Nearly stemless: root tuberous.*

triste, (mourning geranium.) umbel simple: leaves rough-haired, pinnate: leafets bipinnatifid; divisions oblong, acute. Flowers dark-green.

daucifolium, (carrot geranium. 2ℓ.) scape very simple: leaves thrice pinnate, hirsute: leafets lance-linear.

2. *Leaves simple, not angled.*

odoratissimum, (sweet-scented geranium. ♄.) peduncles sub-5-flowered: leaves round-cordate, very soft.

3. *Leaves simple, more or less angled or lobed.*

zonale, (horse-shoe geranium. ♄.) umbels many-flowered: leaves heart-orbicular, obsoletely lobed, toothed, with a colored zone or band around near the margin.

in'quinans, (scarlet geranium. ♄.) umbels many-flowered: leaves round-reniform, hardly divided, crenate, viscid-downy.

acerifolium, (lemon or maple-leaf geranium. ♄.) umbels about 5-flowered: leaves 5-lobe-palmate, serrate; below wedge-form, undivided.

capitatum, (rose-scented geranium. ♄.) flowers capitate: leaves cordate, lobed, waved, soft: stem diffuse.

quercifolium, (oak-leaf geranium. ♄.) umbels sub-many-flowered: leaves cordate, pinnatifid, crenate: sinuses rounded: filaments ascending at the apex.

graveo'lens, (sweet-rose geranium. ♄.) umbels many-flowered, sub-capitate: leaves palmate-7-lobed; divisions oblong, obtuse; margins revolute.

3—2. PEN'ISE'TUM. (1) 4. 10.

viride, (Ju. ☺.) spike cylindrical: involucre of 4—10 fasciculate bristles, scabrous upwards: spikelets in pairs: perfect floret smooth: sheaths pubescent. Introduced? 18—24 i.

glaucum, (fox-tail panic. O. J. ☺.) spike cylindrical: involucre of many fascicled bristles, scabrous upwards: perfect floret transversely rugose. Var. *purpurascens,* sheaths hairy: glumes and bristles of the involucre hairy. Introduced? 2 f. S.

verticillatum, (2) (W. Ju. ☺.) spike somewhat whorled: bristles of the involucre 2, scabrous backwards: spikelets solitary: corol of the perfect floret smoothish. Introduced? 18 i. V. Y. P.

Pelargonium. Gr. *pelargos,* a stork, because the fruit resembles the bill of that bird.

Pennisetum. Lat. *penna,* a feather, and *seta,* bristle, from the feathery appearance of the bristly involucre.

(1) Panicum, L. Setaria, Ph. (2) Panicum alopecuroideum, Wr.

italicum, (1) (Ju. ☺.) spike compound, interrupted at the base, nodding: spikelets conglomerate: involucres much longer than the flowers: rachis tomentose. Introduced? 4 f. *S.* P. Y.

germanicum, W. (2) (bengal grass. Ju. ☺.) spike compound, compact: spikelets glomerate; rachis hirsute: bristles short. Introduced? 2—4 f.

Southern.

pungens, N. (3) (♃?) spike terete, strict: involucre many-parted, 1-flowered; segments terete, subulate, rigid, scabrous, a little longer than the florets.

laevigatum, M. (4) (Ju. ♃?) very smooth: stem compressed: spike columnar: spikelets 1-flowered: involucels 10 awned. 1—2 f.

corrugatum, E. (5) ( ) spike terete, compound, bristly: spikelets many-flowered, (7—10): corol transversely rugose. 2—3 f.

10—5. PENTHO'RUM. 13. ~~86.~~

sedoides, (virginian orpine. O. g-y. Ju. ♃.) stem branching, angled: leaves lanceolate, sub-sessile, unequally and densely serrate: spikes secund, terminal, panicled, alternate and cymed: seeds pitted. 12—18 i. *S.*

13—2. PENTSTE'MON. 40. 37.

pubescens, W. (6) (beard-tongue. O. w-p. J. ♃.) stem hairy: leaves serrulate, lance-oblong, sessile: flowers panicled: the barren filament bearded from the apex to below the middle. Var. *latifolia*, has broad smooth leaves. Var. *angustifolia*, has narrow, hairy, obscurely denticulate leaves. 1—2 f. *S.*

laevigata, W. (7) (W. w-p. Ju. ♃.) stem glabrous: leaves smooth, oblong-ovate, clasping at the base, slenderly toothed, lower ones entire: flowers panicled: barren filaments bearded above. 2 f. *S.* P. T. M.

frutescens, Lb. (W. p. ♄.) stem fruticose: branches angled, pubescent above: leaves lanceolate, obsoletely denticulate, sessile, nearly glabrous: raceme terminal, sub-corymbed: sterile filament bearded. 12—18 i.

alpinum, T. & J. (W. b.) very glabrous: corol somewhat bell-form; limb nearly equal, 5-lobed: leaves lance-oblong, crenulate-denticulate on the margin: divisions of the calyx lanceolate, acute: anthers hirsute: sterile filament shorter than the two longest stamens, bearded below the retuse apex. 6 i.

ambiguum, T. & J. (W. p.) stem fruticose, very branching: leaves linear, shining, concave, mucronate, scabrous on the margin: panicle simple: divisions of the calyx ovate, acuminate: sterile filament glabrous. 8—10 i.

crista'tum, N. (8) (W. p. ♃.) stem low, pubescent: leaves oblong, acute,

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Penthorum. Gr. *pente*, five, and *oros*, a mark, in allusion to the 5-marked angles of the capsules, more or less perfect.

Pentstemon. Gr. *pente*, five and *stema*, stamen, because this genus has a fifth imperfect stamen.

(1) Setaria, Ph. (2) Panicum, W. (3) Panicum cenchroides, E.
(4) Panicum, M. (5) Panicum, E. (6) Chelone pentstemon, Mant.
(7) Chelone, Miller. (8) erianthera, Ph.

obsoletely denticulate, sub-hirsute: pedicels axillary and terminal, 1—3-flowered, very short: sterile filaments exsert, revolute at the apex, bearded: divisions of the calyx lance-linear, acuminate, hirsute. 6—8 i.

grandiflorum, N. (1) (W.) very glabrous: leaves half-clasping, ovate-oblong, entire: upper ones roundish: flowers solitary and axillary: sterile filament partly pubescent at the summit: divisions of the calyx oblong, acute. D.

gracile, N. (W. p. J.) stem smooth, slender: leaves smooth, linear, acute, half clasping, sharp-serrulate: sterile filament bearded longitudinally: divisions of the calyx linear oblong. 12—24 i. D.

campanulatum, W. (p. Ju. 2ℓ.) stem glabrous, barren filament bearded above: leaves lanceolate, acuminate; all sharply serrate. R.

micranthum, N. (p. Ju. 2ℓ.) smooth: leaves lance-linear, acute, somewhat clasping, very entire: flowers small, glomerate, interruptedly spike-panicled: corol sub-tubulous, bearded within: sterile filament minute, scarcely bearded: divisions of the calyx lanceolate, acute. 12—14 i. R.

pumilum, N. (J. 2ℓ.) finely pubescent: sub-caespitose: leaves lance-linear, acute, entire: stem very short, few-flowered: flowers largish, glabrous: sterile filament bearded above: divisions of the calyx lanceolate, acuminate. 3—4 i. R.

Southern.

coeru'leum, N. (2) (W. b. 2ℓ.) smooth: radical leaves linear, entire; cauline ones lance-linear, entire: all sessile: sterile filament short, bearded above: divisions of the calyx lanceolate, acute, glabrous.

erianthera, N. (3) (W. p. J. 2ℓ.) stem and leaves glabrous: leaves sessile, lance-ovate, entire, sub-undulate at the margin: peduncles many-flowered, secund: divisions of the calyx round-oval, acuminate: sterile filament slightly bearded under the retuse point: anthers pubescent.

albidum, N. (W. w.) low: leaves lance-ovate, sub-serrulate, smooth, sessile: flowers sub-fascicled, axillary and terminal: sterile filament slenderly and interuptedly bearded: divisions of the calyx lance-linear, pubescent. 6—8 i.

dissectum, E. (p.) leaves opposite, sessile, compoundly divided; segments linear, and generally obtuse: flowers panicled. 2 f.

nuttallii, Bk. (W.) very glabrous: leaves coriaceous, lance-ovate, denticulate, half clasping: flowers panicled: leafets of the calyx ovate, acuminate: sterile filament bearded at the apex: anthers glabrous. 2—3 f.

hirsuta, W. (w-p.) stem and leaves hirsute.

Pentstemon, CHELONE.

Peplys, CRYPTA.

5—2. PERIPLO'CA. 30. 47.

græca, (milk-vine. W. p. M. ♄.) flowers hirsute within, terminal, stigma with 10 crenatures. P.

Periploca. Gr. *peri*, about, and *plokē*, a binding or twining; from the branches twining about each other.

(1) Bradburii, Ph. (2) angustifolia, Ph. (3) glabra, Ph.

Peritoma, CLEOME.

16—5. PE'TALOSTE'MON. (1) 32. 93.

candidum, W. (2) (W. w. Ju. 2f.) spike cylindric, peduncled: bracts longer than the flower: calyx glabrous: leaves lanceolate, in 3 pairs. *S.* D. Red River.

violaceum, W. (W. r-p. Au. 2f.) spike cylindric, peduncled: bracts about equal to the calyx; little bracts spatulate, caducous: calyx silky: leaves linear, in 2 pairs. D. Red River.

villosum, N. (W. r. Au. 2f. villous: stem decumbent: spike large, cylindric, sub-sessile: bracts shorter than the woolly, 5-toothed calyx: leafets linear-oblong, about 7-pairs.

macrostachyum, T. & J. (W. w. 2f.) spike cylindric, compact, very long: bracts lanceolate, and with the calyx silky-villose: leafets about in 3 pairs, lance-oblong, glabrous. 2 f.

Southern.

carneum, Mx. (w. Ju. 2f.) spike cylindric, peduncled: bracts subulate, as long as the glabrous calyx: leafets lanceolate. 2—3 f.

corymbosum, Mx. (3) (w. S. 2f.) peduncles in panicled corymbs: calyx plumose: leafets linear, unawned. 2 f.

roseum, N. (r.) glabrous: leafets linear: bracts subulate, very short, persistent: calyx striate, glabrous.

multiflorum, N. (W. w. 2f.) stem erect, branchlets fastigiate, sub-corymbed; little heads short, oblong: calyx pulverulent, longer than the bracts: leafets (9) linear-oblong, abbreviated. 1 f. Red river.

gracile, N. (w. 2f.) very glabrous, decumbent: spike cylindric, short: bracts acute, of the length of the calyx, deciduous: calyx-teeth short, glabrous: leafets 3-paired, linear elliptic. Alabama. Florida.

decumbens, N. (W. p. J. 2f.) scarcely pubescent: stem decumbent, branching from the base: spikes cylindric, thick: bracts acuminate, longer than the pubescent calyx: leafets broadish, (7—9) cuneate-oblong, apiculate. Red river.

Petalostemon, DALEA.

5—2. PEUCED'ANUM. 45. 60.

Southern.

ternatum, N. (sulpher wort. 2f.) leaves ternate, long-petioled: leafets entire, long-linear, acute, alternated below: involucre nearly wanting: involucel very short, 5—6-leaved: fruit oblong-oval. 3 f.

Petalostemon. Gr. *petalon*, a petal, and *stema*, stamen; from the union of those two organs in a tube.

Peucedanum. Gr. *peuke*, fir, which its leaves resemble, and *danos*, dry or burning, from the acrid qualities of the root.

(1) Dalea, W. (2) Dalea, Jn. (3) kuhnistera, W. Kuhnistera, carolinensis, Lk.

verticillatum, Raf. ( ) leaves decompound, segments filiform; lower ones sub-verticillate. Louisiana.

16—10. PHA'CA. 32. 93.

frigida, (W. y-w.) erect, a little glabrous, somewhat branching: leafets in 4 or 5 pairs, oblong-ovate, hairy beneath and at the margin: stipules ovate-oblong, ciliate, foliaceous large: mouth of the calyx hairy: legumes stiped, oblong, inflated, membranaceous. Rocky Mts. N. W. Lakes.

aboriginorum, Hk. (r-w.) white-pubescent: stem erect, sparingly ramose, striate: leafets somewhat 5-paired, lance-oblong, obtusish: stipules ovate, acute, lower ones connate, largish: legumes slender stiped, obliquely oval, acute, membranaceous, glabrous. Rocky Mts.

glabriuscula, Hk. ( ) glabrous, or sprinkled with minute scattered hairs: stem erect, sub-simple, striate: leafets in 5 or 6 pairs, lance-linear, sub-acute: stipule ovate, acute, lower ones connate, largish: legumes long-stiped, lance-falcate, compressed, membranaceous, glabrous. Rocky Mts. and valleys.

elegans, Hk. ( ) sub-glabrous: stem sub-ramose, erect or ascending, angled: leafets 5 to 7-paired, oblong, obtuse, wedge-form at the base, glabrous above and with minute close-pressed hairs beneath: stipules ovate, acute, sub-connate at the base: racemes long-peduncled. Rocky Mts.

Southern.

villosa, Mx. (1) (W. y. Ju. 2[.) nearly stemless, very villose: leafets oval, glabrous: peduncles as long as the leaves: legumes hoary, very villose, assurgent, oblong.

triphylla, Ph. (2) (W. 2[.) stemless: assurgent: leaves ternate: leafets lanceolate, sessile: scape none: legumes sessile, oblong. Leaves of silvery hue.

5—1. PHACE'LIA. 28. 43.

bipinnatifida, Mx. (phacelia. W. b. M.) erect: leaves pinnatifid; divisions gash-lobed: racemes mostly bifid, oblong, many-flowered: division of the corol entire. 1 f. *S.* P. K.

fimbriata, Mx. (W. b. M. ☼.) ascending, hairy: leaves sessile, pinnatifid: divisions lanceolate, acute, entire, hispid-pilose above, glabrous beneath: racemes solitary; pedicels elongated: divisions of the corol ciliate-fringed. 1 f. *S.* P. K.

parviflora, P. (3) (b. M. ☼.) diffused, pubescent: leaves sub-sessile, pinnatifid; divisions oblong, entire: racemes solitary: pedicels short: divisions of the corol round, entire. 6—8 i. P. M.

integrifolia, T. & J. (W.) erect, pubescent: leaves petioled, ovate, crenate-serrate: racemes numerous, dense-flowered.

Phaca. Gr. *phakē*, lentil, which it only resembles in being leguminous.
Phacelia. Gr. *phakelos*, bundle, in allusion to the fascicled spikes.
(1) Astragalus, Mx. (2) caespitosa, N. Astragalus, Ph. (3) Polemonium dubium, W.

Southern.

heterophylla, Ph. (W. b. Ju. ♂.) erect, hispid: leaves petioled, pinnatifid: divisions lanceolate, entire, nerved, terminal one elongated; floral leaves simple, lanceolate, petioled: racemes 2-cleft, dense-flowered: divisions of the corol entire.

Phaethusa, SIEGESBECKIA.

6—1. PHALAN'GIUM. 10. 16.

esculen'tum, N. (1) (W. b. M. 2ſ.) root bulbous: scape longer than the linear carinate leaves: spike racemed: stigma minutely 3-cleft. 12—18 i. *S.* K.

Southern.

croceum, Mx. (2) (y. 2ſ.) root bulbous: scape much shorter than the grass like leaves: spike pyramidal: bracts short: seed sub-globose, smooth.

3—2. PHAL'ARIS. 4. 10.

americana, E. (3) ribbon grass, wild canary grass. O. Ju. 2ſ.) panicle oblong, spiked: glumes of the calyx boat-shaped, serrulate: corol unequal: rudiments hairy. Var. *picta*, leaves variously striped. This variety is the ribbon grass of the gardens. 2—5 f. *S.* W. P. B. F. O. N. C.

canariensis, (canary grass. O. Ju. ☉.) panicle sub-spiked, ovate: calyx boat-form, entire at the apex: rudiments smooth. Introduced. 18 i.

Phalaris, AULAXANTHUS.

16—10. PHASE'OLUS. 32. 93.

1. S. G. PHASE'OLUS, *proper*, (EU'PHASE'OLUS.)

perennis, (W. r-p. 2ſ.) twining, hairy: leafets ovate, acuminate, 3-nerved: racemes 1 to 3, axillary; panicles longer than the leaf; bracts small: legumes pendulous, broad, falcate, mucronate. Illinois, Georgia.

Exotic.

vulgaris, (common pole-bean. p. w. Ju. ☉.) twining, somewhat glabrous: leafets ovate, acuminate; racemes peduncled, shorter than the leaves; peduncles in pairs: legumes pendulous, long-mucronate; seed ovate, sub-compound. East Indies. Cultivated; by which it often

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Phalangium. Gr. *phalagx*, Tarantula, whose bite it was supposed to cure.

Phalaris. Gr. *phalaris*, of Dioscorides, from *phalos*, shining, from its shining seeds.

Phaseolus. Lat. *phaselus*, a little ship, from the resemblance of the seed vessel to the keel of a ship.

Euphaseolus. Gr. *eu.* beautiful.

(1) quamash, Ph. (2) Ornithogalum? E. (3) arundinacea, Mx. Calamagrostis colorata, N.

becomes a bush-bean, with variegated seeds. Var. *nanus*, (bush-bean six-week's bean) stem erect, not twining or partly twining: bracts large: legumes compressed.

multiflorus, (scarlet runner. r. w. Ju. ☺.) twining, sub-glabrous: leafets ovate, acuminate: racemes peduncled, longer than the leaves; peduncles in pairs; bracts close-pressed, a little shorter than the calyx: legumes sub-scabrous. From South America.

lunatus, (lima bean. g-w. Ju. ☺.) twining: leaves ovate-acuminate: racemes shorter than the leaves; peduncles in pairs: legumes scymitar-form, subulate: seed compressed, purplish white.

2. S. G. Stro'phostyles. (1)

helvolus, (W. p. Au. 2ſ.) stem twining: leafets oblong-deltoid, sub-pinnate: peduncles longer than the leaves, 3-flowered at the apex: banner short; wings expanded, large: legume erect. *S.* Cultivated.

Southern.

diversifolius, (W. p. Au. 2ſ.) stem prostrate, scabrous: leafets angled, 2 or 3-lobed: peduncles longer than the leaf, and many-flowered; flowers in heads: legumes pubescent. Phaseolus trilobus, **Mx.** 2—4 f.

vexillatus, (banner-bean.) stem prostrate, twining, somewhat hairy; leafets oblong-ovate: peduncles very long, flowers 5 to 7, in heads: banner large, emarginate; wings small: legumes a little hairy: seed woolly.

3. S. G. Am'phicar'pa. (1)

monoica, Ell. (O. b. & w. Ju. ☺.) racemes pendulous, of a corol-like appearance: stem villose backwards: radical flowers without petals: leaves ternate; leafets ovate, nearly smooth; stipules ovate, striate. Var. *comosa*, 2ſ. has hirsute leaves. Cultivated. Probably a distinct species. 4 f.

sarmentosa, (W w. Au.) racemes filiform, 3-flowered. without petals: leaves ternate, leafets ovate, glabrous: capsules oblong, 2-seeded.

4. S. G. Rhyncho'sia. (1)

Southern

reniformis, (y. 2ſ.) stem erect, low, hirsute: stipules lance-oblong: leaves roundish: racemes sessile, many-flowered, conglomerate; divisions of the calyx lanceolate, acuminate. Dry. Carolina.

difformis, (2ſ.) stem twining: stipules lance-oblong, lower leaves simple, upper ones trifoliate: racemes long-peduncled, densely sub-spiked: divisions of the calyx long-acuminate. Dry. Carolina.

erecta, (2ſ.) stem erect, angled: branches somewhat twin-

Strophostyles. Gr. *strophos*, twisted, and *stulos*, style.

Amphicarpa. Gr. *amphi*, around, and *karpos*, fruit; in allusion to the germ being surrounded at the base by a sheath.

Rhynchosia. Gr. *rugchos*, a beak: the germ being beaked.

(1) Glycine, L. See Glycine.

ing: leafets oval, sub-acute, net-veined: racemes axillary, longer than the leaf: divisions of the calyx linear, acute. Dry. Carolina.
caribæa, ( ), stem twining, pubescent; leafets rhomb-ovate, acute, resin-punctate beneath: racemes longer than the leaf: legumes sabre-form, hispid. West Florida.

5. S. G. WISTAR'IA. (1)

Southern.

frutescens, (W b-p. ♄.) wings 2-eared: germ glabrous: stem climbing: racemes terminal. Carolina. Illinois. Florida.

6. S. G. A'PIOS. (2)

tuberosa, (ground-nut. O. b-p. Ju. 2[.) stem twining; leaves pinnate, with 7 lance-ovate leafets: racemes shorter than the leaves, axillary: root tuberous. Root very nutritious. Ought to be generally cultivated. 2—6 f. *S.*

Phellandrium, ŒNANTHE.

11—1. PHILADEL'PHUS. 19. 8.

Exotic.

coronarius, (mock orange, false syringa. w. J. ♄.) styles distinct: leaves ovate, sub-dentate.

Southern.

inodo'rus, W. (scentless syringa. w. J. ♄.) leaves ovate, acuminate, entire: divisions of the calyx acute: style undivided, longer than the stamens: stigmas 4, oblong. Flowers large. Cultivated.
grandiflorus, W. (1) (flowery syringa. w. J. ♄.) leaves ovate, acuminate, denticulate: axils of the veins with fascicles of hairs beneath: divisions of the calyx acuminate: style undivided, longer than the stamens: stigmas 4, linear. Cultivated.
lewisii, Ph. (W. Ju. ♄.) leaves ovate, acute, sub-entire, ciliate on the margin: divisions of the calyx acute: style 3-cleft, as long as the stamens; stigmas 3.
hirsutus, N. (W. w. ♄.) leaves oblong-ovate, acute, sharply angular-denticulate, hirsute above, whitish-villous beneath: style and stigma undivided: peduncles 2-bracted near the summit.

15—5. PHILOX'ERUS. 14. 30.

Southern.

vermicularis, (2) (J. 2[.) glabrous: stem creeping; leaves sub-terete, fleshy: flowers in terminal, solitary, oblong heads.

Wistaria. In honor of Dr. Caspar Wistar of Philadelphia.
Apios. Gr. name for a wild pear, which the roots resemble in form.
Philadelphus. Gr. *philos*, love, and *adelphos*, a brother: because it is a pleasant companion, for its beauty and fragrance.
Philoxerus. Gr. *philos*, love, and *xeros*, dry or burnt; a plant delighting in dry, warm soil.
(1) Thyrsanthus, Glycine. (2) Glycine, L. See Glycine.
(1) inodorus, Mx. (2) Illecebrum, L.

3—2. PHLE'UM. 4. 10.

pratense, (timothy grass, herd's grass, cats-tail grass. O. J. 2ℓ. and ♂.) spike cylindric, calyx mucronate-awned; keel ciliate: awn shorter than the calyx: culm erect. Introduced? 2—3 f. *S.*

alpi'num, L. (A.) spike ovate or cylindric-ovate, hirsute or villose. Spike often blackish or dark purple.

5—1. PHLOX. 20. 45.

paniculata, (smooth-stem lichnidia. W. r. w. Ju. 2ℓ.) glabrous, erect: leaves lanceolate, narrowing gradually, flat: margin rough: corymbs panicled: divisions of the corol rounded: calyx awned. Cultivated. 2—3 f. *S.* P. M. H.

pyramidalis, S. (1) (W. A. p. J. 2ℓ.) erect, glabrous: stem scabrous: leaves heart-ovate, acute: panicle fastigiate, pyramidal: divisions of the corol wedge-truncate: teeth of the calyx sub-erect, lanceolate, acute. 2—3 f. *S.* P.

maculata, (spotted lichnidia. W. r. w. Ju. 2ℓ.) erect: stem spotted, scabrous: leaves lance-oblong, glabrous; margins rough: panicle oblong: flowers crowded: divisions of the corol rounded: teeth of the calyx acute, recurved. Var. *suaveolens*, (2) stem not spotted: corol white. 2 f. *S.* P. Y.

aristata, * Mx. (3) (r. w. J. 2ℓ.) weak, erect, viscid-pubescent: leaves lance-linear: panicle lax, fastigiate: pedicels somewhat in pairs; divisions of the corol somewhat obovate: tube curved, pubescent: teeth of the calyx long, subulate. Var. *virens*, corol reddish-purple. Var. *canescens*, corol whitish rose-color. 18 i. *S.* D. P. Y. O. F. M. K.

pilosa, (4) (creeping lichnidia. p. w. J. 2ℓ.) small, decumbent, pubescent: leaves lance-linear, short, roughish: corymbs sub-fastigiate: divisions of the corol round-obtuse: tube straightish, glabrous; teeth of the calyx subulate-acuminate. 12—18 i. *S.* Y. P.

divaricata, (W. p-b. M. 2ℓ.) pubescent, (low, decumbent, Ph.) leaves lance-oval, upper ones alternate: branches divaricate, lax, few-flowered: divisions of the corol sub-obcordate: teeth of the calyx linear-subulate. 1—2 f. *S.* P. Y. F. M. O. K.

reptans, Mx. (5) (W. b-p. J. 2ℓ.) stoloniferous-creeping, pubescent: radical leaves obovate-spatulate, cauline ones lance-oval: corymb spreading, few-flowered: divisions of the corol obovate: teeth of the calyx linear, reflexed. 8—18 i. *S.* P.

subulata, (mountain pink. W, r. M. 2ℓ.) cespitose, white pubescent:

Phleum. Gr. *phleon*, the ancient genus, supposed to be our cat-tail grass.

Phlox. Gr. *phlox*, a flame, from the red color of the petals; probably applied first to an Agrostemma.

(1) carolina, W. latifolia, Mx. (2) suaveolens, Ph. (3) pilosa, C. (4) amoena, C. (5) stolonifera, C. and Ph.

*Dr. Aikin says, after examining this very variable plant from Lake Ontario to Virginia, he is confirmed in the opinion, that it is synonymous with P. divaricata.

leaves linear, pungent, ciliate: corymbs few-flowered: pedicels 3-cleft: divisions of the corol wedge-form, emarginate: teeth of the calyx subulate, scarcely shorter than the tube of the corol. Cultivated. 3—6 i. *S.* Y. P. O.

setacea, (W. r. J. 2f.) cespitose, pubescent: leaves fascicled, subulate, pungent, ciliate: pedicels few, terminal, sub-umbelled: divisions of the corol wedge-form, emarginate: teeth of the calyx subulate, much shorter than the tube of the corol. *S.* Y. D.

cæspitosa, N. (w. Ap. 2f.) diffuse, procumbent: leaves subulate, ciliate, short, margin reflexed; flowers solitary, short pedicelled: divisions of the calyx spinulose: divisions of the corol, cuneate, entire. R.

longifolia, N. (w. Ju. 2f.) sub-cespitose, many-stemmed; leaves subulate, very long and narrow, glabrous: little stems few-flowered, very short, finely pubescent, irregularly trichotomous: peduncles filiform, elongated; calyx divisions acuminate; divisions of the corol oblong-cuneate, entire. 9 i. R.

muscoides, N. (w. Ju. 2f.) dense cespitose, very small: leaves closely imbricate, lance-oblong, copiously ciliate, very short: flowers sessile, scarcely exsert; divisions of the corol cuneate, entire. R.

revoluta, Aikin (w-p. J. 2f) glabrous stems erect sub-simple, slightly scabrous at the top: leaves coriaceous, paler beneath, scabrous and revolute on the margin, sub-sessile; lower ones lance-linear, acute at each end; upper ones lanceolate, rounded at the base: corymb subfastigiate, few-flowered: pedicels sub-scabrous: divisions of the corol obovate, slightly crenulate: calyx glabrous; divisions lanceolate, acute, unawned, half as long as the corol. 12—18 i. Damp woods. Maryland.

Southern.

undulata, W. (1) (A. b. Au. 2f.) erect, glabrous: leaves lance-oblong, sub-undulate, scabrous on the margin: corymbs panicled: divisions of the corol sub-retuse: calyx awned. 2 f.

carolina, W. (2) (p. Au. 2f.) erect, stem pubescent; leaves lance-ovate, smooth; corymb sub-fastigiate; branchlets about 3-flowered: divisions of the corol round: teeth of the calyx glabrous, lanceolate, erect.

glaberrima, (W. p. Ju. 2f.) cespitose; stem erect; leaves lance-linear, glabrous: corymbs small, terminal, sub-fastigiate: divisions of the corol roundish; teeth of the calyx lance-linear, acute. K.

speciosa, Ph. (W. w. & p. J. ♄.) erect, glabrous, frutescent, very branching; leaves linear; upper ones alternate; dilated at the base: racemes panicle-corymbed: divisions of the corol wedge-oblong, emarginate: teeth of the calyx subulate, equalling the tube.

ovata, W. (r-p. J. ♄.) erect, glabrous: radical leaves ovate, acute, somewhat fleshy: cauline ones lanceolate: corymbs sub-fastigiate, divisions of the corol undulate, retuse: teeth of the calyx linear, acute.

acuminata, Ph. (A. p. Au. 2f.) lower leaves spatulate-ovate, acuminate, slightly scabrous; upper ones lanceolate; corymbs terminal. 3—5 i.

nitida, Ph. (3) (W. p. J. 2f.) erect, glabrous; stem scabrous; leaves ovate-oblong, sub-coriaceous; corymb fastigiate: divisions of the co-

(1) paniculata, Mx. (2) trifolia, Mx.? (3) carolina, Wr.

rel obovate, sub-retuse: teeth of the calyx lanceolate, mucronate. 18—24 i.

cordata, E. (W. Au.) leaves oblong-cordate, sub-acuminate, margin scabrous: corymbs panicled: teeth of the calyx long-awned. 1—2 f.

bifida, Bk. (W. p. Ap.) stem erect, branching, minute-pubescent: leaves lance-ovate and lance-linear, somewhat clasping, opposite and alternate, margin revolute, midrib ciliate: teeth of the calyx linear, acute, pilose: divisions of the corol wedge-form, deeply cleft. 4—6 i.

3—2. PHRAG'MITES. 4. 10.

communis, Trin. (1) (common reed. Au. 2ℓ.) calyx about 5-flowered: florets longer than the calyx. 6—12 f. B. C. O.

13—1. PHRY'MA. 40. 42.

leptosta'chya, (lopseed. O. J. p-w. 2ℓ.) leaves ovate, coarsely serrate, petioled: spikes terminal, slender: flowers opposite. As the fruit approaches maturity, it lops down against the rachis. Dry woods. 2—3 f. *S.*

3—1. PHYLLAC'TIS. 48. 56.

Southern.

borata, N. (2) (W. Oc.) stemless: root fusiform: leaves radiating, linear-spatulate, obtuse, hirsute-pilose.

19—15. PHYLLAN'THUS. 38. 96.

obovatus, (3) (S. ☉.) leaves alternate, oval, obtuse, glabrous, somewhat distichous: flowers few, (2—4,) axillary, pedicelled, nodding: stem erect; branches distichous. 12 i. *S.* P.

5—1. PHYSALIS. 28. 38.

visco'sa,* (yellow henbane, ground cherry. O. Ju. 2ℓ.) leaves in pairs,

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Phragmites. Gr. *phragma*, enclosure, palisades, for which reeds are used.

Phryma. Gr. *phrugma*, dried; the fruit appears dry and lops down before ripening.

Phyllactis. Gr. *phullon*, leaf, and *ago*, to bring, carry, because it is stemless.

Phyllanthus. Gr. *phullon*, leaf, and *anthos*, flower; the flowers of the original species grow on the edges of the leaves.

Physalis. Gr. *phusa*, a bladder, from the inflated calyx.

(1) Arundo, phragmites, W. (2) Valeriana, Dc. (3) carolinensis, Wr.

*Dr. Aikin has very particularly compared the P. *viscosa*, *obscura*, Mx. and *pubescens*, W. and is confirmed in the opinion that they are the same species. And he is also inclined to the opinion that even *pennsylvanica* and *philadelphica*, are mere varieties of *viscosa*, and not even sufficiently characterized varieties. He says, the following definition includes the whole five species, and applies to each of them in all its parts.

P. *viscosa*, pubescent: stem decumbent, herbaceous, divaricate-branched, sub-panicled above; branches sub-angular; leaves solitary or in

heart-oval, repand, obtuse, sub-tomentose: stem panicled above: fruit bearing calyx pubescent. 1—3 f. *S.*

obscura, Mx. (1) (ground cherry. y. p. Ju.) leaves sub-cordate, orbicular, acuminate, unequally dentate: stem herbaceous, divaricate, much branched; branches angled: inflated calyx large. Var. *glabra*, (2) summit and petioles scarcely pubescent. Var. *pubescens*, viscid-pubescent. T. Y. P. C. F. N.

pennsylva'nica, (y. J. 2f.) leaves ovate, sub-repand, obtuse, nakedish: stem branching: peduncles solitary, a little longer than the petioles. 1 f. *S.* P. Y. N. C.

philadel'phica, Lk. (y. p. Ju. ☉.) leaves ovate, repand-toothed, glabrous: stem very branching, peduncles solitary, much shorter than the petioles. Probably a variety of the *obscura*. *S.*

lanceolata, Mx. (y. J. 2f.) leaves in pairs, lance-oval, sub-entire, gradually narrowing into the petiole, pubescent: stem dichotomous: calyx villose. *S.* P. D.

lobata, T. & J. (W. g.) leaves oblong, somewhat fleshy, lyrate-lobed, narrowed into the petiole at the base, glabrous, revolute at the margin: stem herbaceous, branching: peduncles solitary.

Exotic.

alkekengi, (common winter cherry. 2f.) leaves in pairs, entire, acute: stem sub-ramose below. Calyx of the fruit red or reddish.

Southern.

pubescens, W. (O. y. Ju. ☉.) leaves villose, viscous, sub-cordate: stem very branching: flowers solitary, pendulous: fruit bearing calyx round-globose, angled.

somnif'era, W. (y. Ju. 2f.) tomentose: leaves ovate, very entire: flowers crowded, short-pedicelled: corol bell-form.

walteri, N. (3) (2f.) pulverulent-sub-tomentose, very branching, dichotomous; leaves twinned, broad-ovate, obtuse, long petioled, entire: peduncles solitary nodding: calyx fructiferous, somewhat glabrous. South Carolina.

angustifolia, N. (2f.) very glabrous; prostrate: dwarfish; leaves very long, linear, fleshy, solitary: peduncles nodding, filiform, solitary. West Florida.

Phyzostegia, DRACOCEPHALUM.

10—10. PHYTOLAC'CA. 54. 29.

decandra, (poke-weed, pigeon berry. O. w. Ju. 2f.) leaves ovate, acute

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Phytolacca. Gr. *phuton*, plant, and *lachanon*, potherb; the young sprouts being one of the best substitutes for asparagus.
(1) pruinosa, E. (2) angulata, Wr. (3) lanceolata, E.

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pairs, heart-ovate, repand-toothed, generally acute, often acuminate or obtuse: flowers solitary, axillary, pendulous: fruit bearing calyx large, inflated, angled, pubescent; berry glabrous, many-seeded. Flowers yellow, spotted at the base: leaves long-petioled, and when in pairs, one is always much larger than the other: fruit yellow when ripe, slightly acid, edible: root fusiform, white, bitter.

at both ends: flowers racemed: berries flattened at the ends. 3—6 f. *S.*

5—1. PICKERIN'GA.* 18. 51.

[Generic description was not printed in its place. It should follow Cyrilla, p. 58.]

Calyx small, 5-parted, inferior petals 5; anthers sagitate: style simple: capsule 1-celled, sub-globose, many-seeded.

Southern.

paniculata, N. (1) (♄.) evergreen: leaves entire, alternate; wedge-oblong obtuse, flowers panicled.

5—1. PINCKNE'YA. 47. 57.

Southern.

pu'bens, Mx. (p. J. ♄.) leaves opposite, lanceolate, entire, thinly pilose and shining above, tomentose below, sub-acuminate: calyx superior, persistent, coloured. 15—20 f.

2—1. PINGUIC'ULA. 24. 35.

ela'tior, Mx. (butter wort. W. M. 2ℓ.) nectary subulate, obtuse, shorter than the corol: tube ventricose above: scape villose beneath. 4—12 i. *S.*

Southern.

lutea, Wr. (p. Ap. 2ℓ.) border of the corol 5-cleft, divisions 2-lobed; lobes 2-toothed: spur subulate a little shorter than the tube. 6—8 i. Charleston, S. C. Florida.

pumila, Mx. (b. Ap. 2ℓ.) border of the corol 5-cleft, divisions emarginate, lobes entire: spur subulate, obtusish, as long as the tube. 3—5 i.

acutifolia, Mx. (W. Ju. 2ℓ.) very glabrous: leaves erect, oval, very acute.

australis, N. (W. r.) glabrous: nectary very short, incurved: flowers largish. West Florida.

19—15. PI'NUS. 51. 100.

1. *Leaves solitary, with separate bases.* ABIES.

balsamea, (2) (fir tree, balsam tree. O. M. ♄.) leaves flat, emarginate

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Pickeringa. In honor of Dr. Charles Pickering, a Curator of Acad. Nat. Sci. Phil.

Pinckneya. In honor of Gen. C. W. Pinckney, of S. Carolina, a munificent patron of Science.

Pinguicula. A diminutive of *pinguis*, fat, from the greasy appearance of the leaves.

Pinus. Gr. *pinax*, a wooden tablet made of pine—hence the Gr. *pitus*, pine tree, and pitch.

(1) Cyrilla paniculata, N. in Jour. Sci. vol. 5, p. 200. (2) Abies balsamifera, Mx.

*Mr. Nuttall spells this name Pickeringia: changing the sound of the letter G. unnecessarily.

or entire, glaucous beneath, sub-erect above, recurve-spreading: cones cylindric, erect: bracts abbreviated, obovate, long-mucronate, subserrulate. *S.*

fraseri, Ph. (double spruce. A. J. ♄.) leaves solitary, flat emarginate, glaucous beneath, somewhat one-sided, thick above, erect: cones ovate-oblong, erect: bracts elongated, reflexed, wedge-oblong, emarginate, short-mucronate, gash-toothed. *S.*

taxifolia, Lb. (W. ♄.) leaves solitary, flat, sub-distichous: cones oblong: anthers didymous. *S.*

canadensis, (1) (hemlock tree. O. M. ♄.) leaves flat, denticulate, 2-ranked: strobiles ovate, terminal, scarcely longer than the leaves. The bark is used in tanning leather. 20—100 f. *S.*

nigra, Lb. (2) (black spruce. W. A. M. ♄.) leaves 4-sided, scattered on all sides of the branchlets, erect, straight: strobiles ovate: scales oval, with undulate margins, erose-toothed at the apex. 30—60 f. *S.* T. D. F. N.

rubra, Lb. (3) (red spruce, spruce fir. M. ♄.) leaves solitary, subulate: strobiles oblong, obtuse: scales rounded, sub-2-lobed: margin entire. Canada.

alba, Lb. (4) (white spruce. W. M. ♄.) leaves 4-sided, incurved: strobiles sub-cylindric, lax: scales obovate, entire.

2. *Leaves many, sheathed at the base.* PINUS.

(Leaves in pairs.)

resinosa, Lb. (5) (yellow pine, norway pine, red pine. M. ♄.) leaves and sheaths elongated: strobiles ovate-conic, rounded at the base, sub-solitary, about half as long as the leaves: scales dilated in the middle, unarmed. Bark of a reddish color, and much smoother than the rigida and strobus. Often grows very tall and straight. *S.* T. W. N. D. Catskill.

inops, Lb. (6) (jersey pine. W. M. ♄.) leaves short; strobiles oblong conic, recurved, of the length of the leaves: prickles of the scales subulate, straight. *S.* Y.

banksiana, Lb. (7) (scrub pine, greypine. W. M. ♄.) leaves short, rigid, divaricate, oblique: strobiles recurved, twisted, scales without prickles. Maine. D.

(Leaves in threes.)

variabilis, Lb. (8) (three leaved yellow pine. M. ♄.) part of the leaves in pairs, the others in threes. slender, channelled: strobiles ovate-conic, sub-solitary: prickles of the scales incurved. *S.*

rigida, (pitch pine. O. M. ♄.) leaves with abbreviated sheaths: staminate aments erect-incumbent: strobiles ovate, scattered or aggregated: spines of the scale reflexed. Though very common, it grows the most plentifully on barren sandy plains. *S.*

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(1) americana, Du Roi. Abies canadensis, Mx.
(2) mariana, Du Roi. Abies denticulata, Mx. (3) Abies-pectinata, Lk.
(4) laxa, Eh. canadensis, Du Roi. Abies alba, Mx. (5) rubra, Mx.
(6) virginiana, Du Roi. (7) rupestris, Mx. hudsonia, Lk. sylvestris, A.
(8) mitis, Mx.

serotina, Mx. (pond pine. M. ♄.) leaves elongated: prickles of the scales straight and very slender. Probably a variety of the last. *S.* P. New Jersey.

(Leaves in fives.)

strobus, (white pine. O. M. ♄.) leaves slender: sheaths short: strobiles pendant, cylindric, longer than the leaves: scales somewhat lax. This is called Weymouth pine by the English. Perhaps nine-tenths of the boards used in America are of this species. *S.*

3. *Leaves many, in a fascicle.* LARIX.

pendula, A. (black larch, tamarack, hack-matack, W. M. ♄.) leaves deciduous: strobiles oblong: margins of the scales inflexed: bracts guitar-form, with a slender point. O. D. N.

microcarpa, Lb. (1) (red larch, hack-matack. M. ♄.) leaves deciduous: strobiles roundish, few-flowered: scales reflexed: bracts oval, obtuse, acuminate. These two last species were considered as varieties of the same; but Mr. Lambert proved their specific difference by raising them from the seed. P. T. V. C. N. Canada.

flexilis, T. & J. (W.) leaves in fives, short and rather rigid: sheaths short and lacerate: strobile erect: scales large unarmed. Branches very flexible.

Exotic.

larix, (common larch. ♄.) leaves deciduous: strobiles ovate-oblong: margins of the scales reflexed, torn: bracts guitar-form.

Southern.

pungens, Lb. (table mountain pine. A. ♄.) leaves in pairs, short, acute: strobiles ovate-conic: prickles of the scales elongated, subulate, incurved; lower ones reflexed.

taeda, Lb. (loblolly pine, old field pine. M. ♄.) leaves in threes, elongated: sheaths elongated: strobiles oblong-conic, deflexed, shorter than the leaves: spines inflexed. Var. *heterophylla*, E. (smooth bark loblolly pine) leaves in twos and threes: bark smooth.

palustris, Lb. (long leaved, yellow pitch or broom pine. M. ♄.) leaves in threes, very long: stipules pinnatifid, ramentaceous, persistent: strobiles sub-cylindric, muricate.

2—2. PI'PER. 2. 98.

Southern.

lepostachyon, N. (florida pepper. ☉.) herbaceous small: leaves obovate, obtuse, sub-3-nerved, pubescent: spikes axillary, filiform, erect, much longer than the leaves. 6—12 i.

Piper. A name probably of Indian origin, but very ancient.

(1) pendula, W. larcina, Du Roi. Larix americana, Mx. who considered the pendula and microcarpa as the same species.

3—2. Pip'tathe'rum. 4. 10.

racemosum, S. (1) (clustered millet-grass, black seed millet-grass. A. Au. 2[.) panicle simple: flowers racemose, lance-ovate: coröl black, hairy: awn twice as long as the valves. N.

5—8. Pisti'a. 32. 93.

Southern.

spathulata, Mx. (w. Ju.) leaves abruptly narrowed into the petiole, dilated, round and obtuse towards the summit.

16—10. Pi'sum. 14. 7.

Exotic.

sativum, (pea. p. w. J. ☉.) petioles terete: stipules round and crenate at the base: peduncles many-flowered. Var. *umbellatum*, (bouquet pea) has the stipules 4-cleft, acute. Var. *quadratum*, (quadrate pea,) fruit ash-color, 4-sided. Var. *humile*, (dwarf pea,) stem erect, not climbing: leafets roundish.

16—10. Pitche'ria. 32. 93.

[Generic description omitted after Erythrina, p. 97.]

Calyx tubular, somewhat two-lipped. 5-cleft, divisions subulate; upper lip bifid, equal to the lower one: wings narrow, subulate, one-toothed: style filiform; ascending: legume oblong, 2-seeded, scarcely exceeding the calyx.

Southern.

galactoides, N. (W. r. 2[.) stem erect, rigid branched, smooth: leaves trifoliate, oval, obtuse, glandular-dotted beneath. Alabama. Florida.

Pisum, Lathyrus.

5—2. Plane'ra. 53. 99.

Southern.

aquatica, Wr. (2) (W. M. ♄.) leaves ovate, acute, serrate, equal at the base, slightly scabrous, short petioled. 25—30 f.

4—1. Planta'go. 54. 31.

major, (plaintain. O. w. J. 2[.) leaves ovate, sub-dentate, sub-glabrous: scape terete: spike oblong, imbricate.

Piptatherum. From Gr. *pipto*, to fall, and *theros*, harvest, summer.
Pistia. Gr. *pistos*, (of *pino*) to drink, in allusion to its loving water or wet places.
Pisum. Gr. *pison*, a pea. The Celtic word *pis*, denotes also a pea.
Pitcheria. In honor of Dr. Zina Pitcher, of the U. S. Army, an excellent naturalist and amiable man.
Planera. In honor of James Planer, Professor of Botany at Erfurt.
Plantago. Lat. *planta*, the sole of the foot, from its supposed resemblance.
(1) nigrum, T. Milium S. Oryzopsis melanocarpa, M.
(2) ulmifolia, Mx.

lanceolata, (rib-wort, snake-plaintain, ripple grass. W. J. 2f.) leaves lanceolate, villose: spikes short, terete cylindric: bracts ovate, acuminate: scape angled, with close-pressed hairs. 1—2 f. *S.* T. B. C. F. O. N. V.

virginica, (dwarf plaintain. W. r-y. J. ☉.) whitish pubescence on all parts: leaves lance ovate, sub-denticulate: flowers remotish: scape angled, (or a little striate?) The corol adheres to the germ so closely that at first it appears to be superior. 3—8 i *S.* C. Y. P. M.

cordata. Lk. (1) (w. J. 2f.) leaves heart-ovate, broad, sub-dentate, glabrous: spike very long: flowers sub-imbricate, lower ones scattered: bracts ovate, obtuse. 12—18 i. *S.* P. Y. C. T. D.

media, (w. J. 2f.) leaves lance-ovate, pubescent: spike cylindric: scape terete. In one variety the leaves are hirsute, and the spikes branching. T.

maritima, (2) (sea plantain. L. Au. 2f.) leaves linear, grooved, fleshy, hairy near the base: scape terete: spike cylindrical: bracts rather acute 6—10 i. *S.* Y. B. C. F.

pusilla, N. (3) (Au. ☉.) minutely pubescent: leaves linear-subulate, flat, entire, acute: scape terete, longer than the leaves: spike cylindrical, loose: lower flowers distant: bracts ovate, acute, as long as the calyx. New Orleans.

cucullata, Lk. (4) (Ju. 2f.) leaves ovate, concave-cowled, 9-nerved, pubescent beneath: spike cylindric, imbricate: scape tall, terete. Maine.

cryopoda, T. & J. (W. 2f.) stemless: petioles covered with very long wool at the base: leaves broad-lanceolate, attenuate at each end, long-petioled, glabrous, entire, 5-nerved: scape terete, very glabrous: spike cylindric, exceeding the leaves: flowers remote: stamens and styles very long: bracts broad-ovate, obtusish: capsules 2-seeded. 9—12 i.

Southern.

carolinana, Wr. (Ju. ♂.) all over glabrous: leaves lanceolate, very entire, long: flowers remote: stem terete. Elliott unites this species with the next.

interrupta, Lk. (Ju. 2f.) leaves lanceolate, (lance-ovate, Ph.) entire: somewhat pilose: spikes slender, long, interrupted: flowers glabrous. Sometimes nearly glabrous, Elliott.

glabra, N. (W.) leaves ovate, denticulate, smooth: scape slender, subcompressed, nearly equal to the leaves: flowers scattered: bracts ovate, acuminate.

cynophaloides, N. (5) (W. Ju. ☉.) silky-villose: leaves lance-linear, very entire, nakedish above: scape terete, scarcely longer than the leaves: spike cylindric, imbricate: bracts linear, with long, villose ciliae.

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(1) kentuckiensis, Mx. (2) pauciflora, Ph. (3) hybrida, D. linearifolia, M.? aristata, Mx. elongata, Ph. (4) maxima, Ju. (5) lagopus Ph.

Platanthera, HABENARIA.

19—12. PLAT'ANUS. 50. 99.

occidentalis, (button wood, american plane-tree, false sycamore. O. J. ♄.) leaves quinquangular, obsoletely lobed, toothed, pubescent beneath: stem and branches becoming white. Grows to a greater size than any other tree in America.

14—1. PLATYPET'ALUM. 39. 63.

purpurascens, Br. ( ) stigma two-lobed, spreading; style manifest: scape naked, 1-leaved and pubescent: silicles sub-glabrous. A.
dubium, Br. ( ) stigma undivided, sub-sessile: silicles and scapes pubescent. A.

14—1. PLATYSPER'MUM. 89. 63.

scapigerum, H. (w. Mar. Ap. ☉.) root sub-fusiform, scarcely fibrous: leaves all radical, spreading, sub-runcinate-pinnatifid; lobes mostly acute; lower ones gradually smaller, attenuated into a petiole, somewhat fleshy, glabrous: scapes many from the same root, digitate, erect simple, very glabrous, always 1-flowered: flowers small, erect. R.

3—1. PLECTRI'TIS. 48. 56.

congesta, Dc. (r. ☉.) glabrous: flowers in a dense whorl, bracts many-cleft, in subulate divisions. Var. *minor*, leaves very narrow. R.

9—2. PLEE'A. 5. 13.

Southern.

tenuifolia, Mx. (y-r. 2ſ.) very glabrous: leaves very narrow-ensiform: sheaths of the spike 1-flowered. 1—2 f.

3—2. PLEURA'PHIS. 4. 10.

Southern.

jamesii, T. (W. Ju. 2ſ.) culm terete, smooth, slender: spike terminal, erect; spikelets sessile, in an ovate congeries at each joint of the rachis: involucre white-woolly, one third the length of the flowers. Discovered on the river Canadian, by Dr. Edwin James. 1 f.

3—2. PO'A. 4. 10.

Remarks. The word *poa*, is pure Greek, and signifies pasture or fodder. Linnæus applied the name to this genus, because it includes the most common *pasture grass* and *meadow grass*. The Poa pratensis,

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Platanus. Gr. *platanos*, from Gr. *platūs*, broad, regarding the wide spread foliage.
Platypetalum. Gr. *platus*, broad *petalon*, leaf or plate, on account of the broad petals.
Platyspermum. Gr. *platus*, broad, *sperma*, seed, on account of the broad margins of the seeds.
Plectritis. Gr. *plektr in*, a spur, from the form of the corol.
Plea. Gr. *pleiōn*, abundance: from the superabundance of stamens.
Pleuraphis. From Gr. *pleura*, the rib, and *aphe*, the touch, or junction.
Poa. Gr. *poa*, the name for grass.

aided by the Agrostis vulgaris, constitutes most of those beautiful carpets which cover our fields, lawns, and road-sides.

annua, (W. Ap. ☺.) panicle sub-secund, divaricate: spikelets ovate-oblong, 5-flowered: florets free: culm oblique, compressed: root fibrous. 6—8 i. *S.* B. N. P. C. T.

fasciculata, T. (L. Au. 2[.) panicle spreading; branches straight, fascicled, crowded: spikelets oblong, 3-flowered: florets free: calyx minute, unequal: culm oblique terete: root fascicled. 1—2 f.

dentata, T. (2[.) panicle loose, somewhat spreading; branches capillary, virgate: spikelets lanceolate, 5-flowered; florets free: calyx unequal: lower glume obtuse, 3-nerved: lower valve of the corol 5-nerved, 5-toothed at the apex when old. 3 f. N.

aquatica, Var. *americana*, T. (1) (Au. 2[.) panicle erect, half-whorled, diffuse: branches flexuous, smooth: spikelets linear, 6—8-flowered: florets ovate, obtuse, free: leaves broad-linear, with the sheaths smooth. 4—5 f. P. N. B. Canada.

maritima, Huds. (J. 2[.) panicle branched, somewhat crowded: spikelets about 5-flowered, terete: florets rather obtuse indistinctly 5-nerved: root creeping. 1 f. B. N.

brevifolia, M. (2) (A. Ap. 2[.) panicle loose: branches in pairs, horizontal: calyx 3—4-flowered: corol pubescent: leaves very short: stipule acuminate. 2 f. P. Y. W.

pungens, T. (3) (W. Ap. 2[.) culm compressed: leaves very short, cuspidate: panicle sub-simple, spreading: spikelets ovate, 3—4-flowered: florets webbed, obtusish, obscurely 5-nerved. 18 i. *S.* P. K.

pratensis, (english grass, meadow grass, spear grass. O. J. 2[.) panicle diffuse: upper leaves much shorter than the smooth sheaths: florets acute, 5-nerved, webbed at the base: stipule short truncate: root creeping. 2—3 f. *S.*

trivialis, (4) (pasture grass. W. Ju.) panicle equal, diffuse: spikelets oblong-ovate, about 3-flowered: florets webbed at the base, 5-nerved: culm and sheath roughish: stipule oblong: root creeping. 2—3 f. P. Y. C. M. N.

compressa, (blue grass. W. Ju. 2[.) panicle contracted, somewhat one-sided: spikelets oblong, 3—6-flowered: florets webbed: glumes sub-equal: culm oblique, compressed: root creeping. Var. *sylvestris*, T. panicle loose, spreading: spikelets 2—3-flowered: culm slender, nearly erect. 12—18 i. *S.* B. P. C. N. O.

serotina, Eh. (5) (W. J. 2[.) panicle elongated, diffuse, at length somewhat one sided; spikelets lance-ovate, 2—3-flowered: florets a little webbed at the base, yellow at the tip, obscurely 5-nerved: root creeping. 2—3 f. W. Y.

nemoralis, (2[.) panicle attenuated, weak: branches flexuose: spikelets ovate, about 3-flowered: florets loose, slightly webbed, acute, obsoletely nerved: stipule almost wanting. 2 f. P. C. N.

nervata, W. (6) (W. J. 2[.) panicle equal, diffuse; branches weak and at length pendulous: spikelets 5-flowered; florets free, conspicuously 7-nerved, obtuse. 3—4 f. B. P. C. O. M. N.

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(1) aquatica, Ph. (2) alpina, Ph. (3) autumnalis, E. flexuosa, M. cuspidata, B. (4) stolonifera, M. (5) palustris, M. crocata, Mx. (6) Briza canadensis, N.

elongata, T. (2ℓ.) panicle elongated, racemose; branches solitary, appressed: spikelets ovate, obtuse, tumid, 3-flowered; florets free; stipule almost wanting. 3 f. N.

obtusa, M. (W. Au. 2ℓ.) panicle ovate, contracted: spikelets ovate, tumid, 5—7-flowered; florets free: glumes scarious: corol ovate, smooth, obtuse; lower valve indistinctly 7-nerved: leaves as long as the culm, and with the sheaths smooth. 2—3 f. P. Y. B,

canadensis, Mx. (1) (meadow rattlesnake grass. O. Ju. 2ℓ.) panicle large-effuse; branches half-whorled, flexuous, at length pendulous: spikelets ovate, tumid, 6—8-flowered; florets free: lower valve acutish, 7-nerved; upper valve very obtuse; stamens 2. 3—4 f.

capillaris, (W. Au. ☺.) panicle very large, loose, spreading, capillary: spikelets 3-flowered, ovate, acute; florets free: culm branched at the base: leaves hairy. 12 i. *S.* P. Y. B. C. M. N. Canada.

hirsuta, Mx. (Ju. 2ℓ.) culm erect, compressed, simple: sheaths hairy: panicle very large, capillary; branches spreading, at length reflected, bearded in the axils: spikelets oblong, about 5-flowered: corol ciliate on the margin. Var. *spectabilis*, (2) spikelets linear, 10—15-flowered. 18 i. *S.* P. Y. B. C. N.

pectinacea, Mx. (3) (W. Ju. ☺.) culm cespitose, oblique: leaves hairy at the base: panicle capillary, expanding, pyramidal, hairy in the axils: spikelets linear, 5—9-flowered; florets free, acute: upper valve of the corol persistent. 8—12 i. *S.* Y. V. P. C. N..

reptans, Mx. (O. Au. ☺?) dioecious: culm branched, creeping; panicle fascicled: spikelets lance linear, 12—20 flowered; florets acuminate. Var. *caespitosa*, T. culm very short, cespitose: spikelets much crowded, oblong. 8 i. *S.*

eragrostis, (4) (W. Ju. ☺.) panicle equal, spreading: lower branches hairy in the axils: spikelets lance-linear, 9—15-flowered; florets obtuse: root fibrous. 12—18 i. *S.* B. C. M. N.

Southern.

tenuis, E. (Au. 2ℓ?) panicle branching, spreading, capillary: spikes 3-flowered, glabrous, long-peduncled: leaves linear, very long. 12—18 i.

parviflora, Ph. (W. J. 2ℓ.) panicle diffuse, capillary; spikelets small, about 3-flowered; flowers obtusish, striate, caducous: leaves distichous, flat. Probably a variety of the nervata, T. 12—18 i. P. Y.

conferta, E. ( ) panicles terminal and axillary, erect, compressed, with clustered flowers: spikelets 8-flowered, glabrous. 2—3 f.

angustifolia, E. (M. 2ℓ.) leaves linear, involute: panicle somewhat crowded: spikes lanceolate, acute, four-flowered; flowers villose at the base. 1—2 f.

nitida, E. (Ju. 2ℓ?) stem erect, very glabrous: panicle large, diffuse, capillary, sub-verticillate: peduncles long: spikelets lanceolate, 8-flowered. 1 f.

rigida, E. (hard meadow grass. M.) panicle lanceolate, a little branched, one-sided; branches alternate, one-sided. 2—4 i.

airoidea, N. (W.) panicle attenuated, erect; branches capillary, loose, half whorled: leaves with very long sheaths, short and acute, spike-

(1) Briza, Mx. (2) refracta, M. spectabilis, Ph. (3) tenella, Ph. pilosa, M. (4) obtusa, N. Briza, M.

lets oblong, obtuse, sub-sessile, 4—6-flowered: calyx unequal, shorter than the corol. 4—5 f.

Poa, GLYCERIA, WINDSORIA.

Podalyria, BAPTISIA.

12—1. PODOPHYL'LUM. 27. 62.

peltatum, (wild mandrake, may-apple. O. w. M. 2f.) stem terminated with 2 peltate palmate leaves: flower single, inserted in the fork, formed by the petioles of the leaves. Sometimes the plant is 3-leaved, and sometimes the flower is inserted on the side of one of the petioles. 1—2 f. *S.*

cailicarpum, R. (w-r. 2f.) stem forked: fruit oblong, larger than a filbert. Probably a variety of *peltatum*. Louisiana.

19—2. PODOSTE'MUM. 54. 7.

ceratophyllum, (thread-foot. W. Ju. 2f.) stem filiform, floating: leaves pinnate: flowers axillary. Attached to rocks and large stones in shallow waters. N. P.

Southern.

abrotanoides, N. ( ) frond very branching: divisions next to the terminal ones capillary, dichotomous, many-cleft, floral spathe elongated. Destitute of roots as distinct from the stem.

18—5. PODOSTIG'MA. 30. 47.

Southern.

pubescens, E. (1) (y-g. M. 2f.) stem erect: leaves linear: umbels terminal and axillary; petals erect, longer than the calyx: corpuscle pedicelled. 12—18 i.

viridis, Wr. (2) (g. & p. M. 2f.) stem erect: leaves petioled, oblong, obtuse, smooth: umbels few, terminal: petals erect, much longer than the calyx; nectaries entire, spreading, short.

18—1. POGO'NIA. (3) 7. 21.

ophioglossoides, (snake mouth arethusa. O. r. Ju. 2f.) root fibrous: scape with 2 distant leaves, 1 or 2-flowered; leaves lance-oval: lip fringed. 8—12 i. *S.*

verticillata, (W. y-r. J. 2f.) leaves 5, in whorls, lance-oblong: stem generally 1-flowered: 3 outer petals long-linear, inner ones lanceolate: lip

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Podophyllum. Gr. *pous*, foot, and *phūllon*, leaf, the leaves resembling the webbed feet of aquatic birds; or in allusion to the long, firm stalk on which the leaves are placed.

Podostemum. Gr. *pous*, foot, and *stemon*, stamen, from the stamens being situated on a base or foot.

Podostigma. Gr. *pous*, foot, and *stigma*, stigma, from its shape.

Pogonia. Gr. *pogōn*, a beard, from the bearded lip of the nectary.

(1) Asclepias pedicellata, Wr. Stylandra pumila, N.

(2) Asclepias, Wr. Anantherix, N. (3) Arethusa, L.

3-lobed; middle division undulated. Var. *medeoloides*, (1) inner petals short obtuse: leaves more acuminate. 6—12 i. *S.* P. N. C. D.

Southern.

divaricata, (p. J. 2ℓ.) root fibrous: scape 1-flowered, with two distant, lance-oblong leaves: outer petals long-linear, expanding: lip sub-3-lobed, crenulate. 18—24 i.

Polanisia, CLEOME.

5—1. POLEMO'NIUM. 29. 45.

reptans, (greek valerian. W. b. M. 2ℓ.) leaves pinnate, (leafets 5—13:) flowers terminal, nodding. P. K.

6—1. POLYAN'THES. 10. 14.

Exotic.

tuberosa, (tuberose. 2ℓ.) flowers alternate, in pairs: rootlets tuberous: scape scaly: leaves linear, long. Sweet scented.

3—3. POLYCAR'PON. 22. 30.

Southern.

tetraphyllum, (w. J. ☉?) stem branching, glabrous, striate, knotted: leaves opposite and in fours, obovate, obtuse, entire, glabrous, narrowed at the base. 3—6 i. Charleston, S. C.

Polycarpon, STIPULICIDA.

3—1. POLYCNE'MUM. 12. 29.

Southern.

americanum, N. (W. 2ℓ.) cespitose: leaves connate, crowded, subulate, 3-angled, rather pungent: flowers terminal, triandrous?

16—6. POLYG'ALA. 33. 93.

incarnata, W. (milkwort. W. r. J. ☉.) stem somewhat simple, erect: leaves scattered, subulate: spikes oval-oblong: corol with a slender, elongated tube: flowers crested. *S.* Y. R. D. Florida,

polaga'ma, Wr. (2) (ground-flower, bitter polygala. W. r. J. 2ℓ.) stem sub-simple, (often several from the same root,) erectish: leaves oblanceolate or linear, mucronate: terminal racemes with perfect flow-

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Polemonium. Gr. *polemos*, war, because two kings are said to have contended for the honor of having discovered its virtues.

Polyanthes. Gr. *polūs*, many, and *anthos*, flower, because it has many flowers.

Polycarpon. Gr. *polūs*, many, and *karpos*, seed, or fruit.

Polycnemum. Gr. *polūs*, many, and *knēme*, a leg or knee, from the number of jointed branches, or joints of the stem.

Polygala. Gr. *polūs*, many, and *gala*, milk, from its milky juice.

(1) Arethusea, Ph. (2) rubella, W. vulgaris. W.?

ers: radical ones apetalous, prostrate, (running under ground when in loose sandy soil:) bracts small, subulate, caducous: calycine wings roundish, longer than the capsule. 6—12 i. P. Y. C. D. Peekskill.

paucifolia, (1) W. (flowering wintergreen. W. r. M. 2ℓ.) small, large-flowered: stem simple, erect, naked below; leaves ovate, acute, glabrous, near the top of the stem: flowers crested, terminal, about in threes: radical ones apterous, often subterraneous. Var. *pubescens*, leaves pubescent on the margin and midrib. 3—4 i. *S.* T. B. C. O. N. V.

uniflora, (1) Mx. (r. Ju. 2ℓ.) small: stem simple, erect, nakedish below; leaves few, broad-ovate, narrowing into the petiole: flowers not crested, solitary, scattered, pedicelled nodding. A variety of the last? N. T. Lake Ontario.

sen'ega, W. (seneca snake root, mountain flax. W. r. or w. J. 2ℓ.) stem erect, simple, leafy: leaves alternate, lanceolate; spike terminal, filiform: flowers alternate, not crested. Var. *albida*, leaves lanceolate or oval: spike somewhat crowded; flowers white, sub-sessile. 8—14 i. *S.* O. T. Y. P. D. Peekskill.

lutea, W. (yellow milkwort. W. y. Ju. ☺. or ♂.) stem simple or branching: radical and lower cauline leaves spatulate, the others lanceolate: spike head cylindric, crowded, peduncled. Var. *elatior*, Ph. stem sub-virgate, taller. 4—16 i. *S.* Y.

viridi—alba, (2) (g-w. Au. ☺.) stem erect, very simple: leaves lance-linear, obtusish: flower heads terminal, sub-globose.

sanguin'ea, (W. r. Ju. ☺.) stem erect, corymb-branched at the top: leaves alternate, linear; flowers not crested, in a head-form spike: peduncles squarrose: calycine wings obovate about as long as the capsule. Damp. 8—16 i. *S.* B. F. N. C.

purpurea, N. (Ju. r. ☺.) stem fastigiate-branched: leaves alternate, oblong linear; flowers beardless: spikes cylindric, obtuse, imbricated on a squarrose rachis: calycine wings cordate-ovate, twice as long as the capsule. P. C. H.

verticillata, (dwarf snake-root. O. w. J. ☺.) stem erect, branching: leaves whorled and scattered: spike filiform, peduncled: flowers distinctly alternate, approximate, crested: calycine wings shorter than the fruit. 6—8 i. *S.*

ambigua, N. (W. p. ☺.) first leaves whorled, the others alternate: stem with wand-like branches: spikes acute, long peduncled: flowers crested; calycine wings round and veined, equal and close pressed to the fruit: bracts caducous. Y. F.

fastigiata, N. (☺.) stem slender, fastigiate-branched: leaves alternate, linear, acute; spike sub-capitate, peduncled: flowers somewhat crested: calycine wings spreading, ovate, acute, scarcely longer than the capsule. Y.

cruciata, (r. g. Ju. ☺.) stem erect, ramose, wing-angled: leaves in fours, lance-linear; flowers in spiked sessile heads. 8—12 i. *S.* P. C. N. B.

brevifolia, N. (W. r. Ju. ☺.) stem erect, fastigiate-branched, angular-winged; leaves oblong-linear, short, resinous-punctate, in fours, whorled: spikes sub-capitate, peduncled: flowers somewhat crested:

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(1) Chamæbuxus Section; probably a natural genus. (2) viridescens, a doubtful species of W. as applied by Ph.

calycine wings cordate-ovate, acute, scarcely longer than the capsule. *S.* Y.

ramosa, E. (1) (g-y. Ju. 2f.) stem erect, branching from the base: lower leaves spatulate-obovate; cauline ones linear, equal: flowers sub-capitate-corymbed. 8—12 i. *S.*

corymbo'sa, Mx. (2) (g-y. Ju. 2f.) stem erect, terete, nearly naked: lower leaves long, lance-linear; cauline ones subulate, minute near the summit: racemes corymbed: rachis squarrose. 2—4 f. *S.*

Southern.

setacea, Mx. (W. Ju. ☉.) stem simple, setaceous, nearly leafless, sparingly branched near the summit: leaves small, setaceous, scattered: flowers minute in a compact spike.

pubescens, M. (3) (r. y. Ju. 2f.) pubescent: stem erect, branching: leaves lance-oblong, acute, sub-sessile: racemes loose, terminal: flowers peduncled, at last pendulous.

viridescens, W. (4) (g-y. Ju.) stem simple: leaves wedge-obovate, obtuse: heads cylindric, squarrose: calycine wings distinctly acuminate. 1—4 i.

baldwin'a, N. (y-w. Ju.) stem erect, branching near the summit: lower leaves spatulate-obtuse; cauline ones lanceolate: heads squarrose, corymbed: calycine wings setaceous-acuminate. 2—3 f.

alba, N. (W. w. 2f.) stem simple: leaves alternate, linear, revolute at the margin: spike racemed, long-peduncled: corol bearded: bracts caducous: calycine wings roundish. 6 i.

boykinia, N. (g-w.) flowers crested: stem simple: leaves 4—5, verticillate, oblong-oval, lanceolate or acute; upper ones scattered: spike solitary long peduncled, lax flowered. Georgia. Florida.

Polygonatum, CONVALLARIA.

8—3. POL'YGO'NUM. 12. 28.

1. *Flowers axillary.*

aviculare, (knot-grass. O. w. M. 2f.) stamens 8, styles 3: leaves lanceolate, scabrous at the margin: stipules short, lacerate: stem procumbent: flowers sub-sessile, axillary, minute. 6—12 i. *S.*

erectum, (5) (O. w. J. 2f.) stem erect, branched: leaves oval, acutish: stamens mostly five. 1—3 f. *S.*

maritimum, W. (6) (L. w-r. Au. ♄?) stamens 8: styles 3: leaves lanceolate, thick and glaucous, revolute on the margin: stipules lacerate: stem diffuse, prostrate, suffruticose. 1—2 f. *S.* Y. C.

tenue, Mx. (7) (slender knot-grass. O. w. Ju. ☉.) leaves long-linear, straight, acuminate: stipules tubular, apex villose: stem slender, erect, branched, acute-angled: flowers alternate, sub-solitary. 9—18 i. *S.*

Polygonum. Gr. *polūs*, many, and *gonē*, corner, in allusion to the 3-cornered seed, or from the knee-jointed stem.

(1) corymbosa, N. (2) attenuata, N. cymosa, Wr. (3) senega, var. rosea, Mx. (4) lutea, var. nana, Mx. (5) aviculare, var. latifolium, Ph. (6) marinum, Ph. glaucum. N. (7) linifolium, M. barbatum, Wr.

2. *Flowers in slender spikes.*

lapathifolium, (1) (W. r-w. Au. ☺.) stamens 6: styles 2: stipules awnless: peduncles scabrous: seeds concave on all sides: spikes rather crowded: leaves lance-ovate, short-petioled, pubescent above. 2—4 f. *S.* P.

punctatum, E. (2) (water pepper, biting knotweed. O. w. Au. ☺.) stamens 8: styles 3: leaves lanceolate, glabrous: stipules lax, glabrous, ciliate at the apex, spotted: spike filiform, weak, somewhat nodding: bracts remotely alternate. 1—2 f. *S.*

mite, P. (3) (tasteless knotweed. W. J. ☺.) stamens 8: styles 3: leaves narrow, lanceolate, sub-hirsute: stipules hirsute, long-ciliate: spikes linear: bracts ciliate, sub imbricate. 12—18 i. *S.* T. Y. P. B. C. N.

virginianum, (W. w. Ju. 2ſ.) stamens 5: styles 2, unequal: leaves broad-oval: spikes wand like: flowers remote. 2—4 f. *S.* P. Y. C. V. T. N.

bistortoides, Ph. (W. w-r. J. 2ſ.) stem simple, 1-spiked: leaves oval, flat, petioled: bracts 1-flowered, 2—3-valved. C.

3. *Flowers in thick crowded spikes.*

viviparum, (A, r. Au. 2ſ.) stem simple: leaves lance-linear, glabrous; margin revolute: spike single, linear: bracts ovate, acuminate. 6 i. *S.* Whitehills.

barbatum, W. (W. r-w. Ju.) stamens 6: styles 3: spike wand-like, truncate, bristle-ciliate: leaves oblong, acute, smoothish. 18—24 i.

persicaria, (ladies' thumb, heart-spot knotweed, heart's ease. O. r. Ju. ☺.) stamens 6: styles 2: spikes ovate-oblong, erect: peduncles smooth: leaves: lanceolate: stipules smoothish, ciliate. 1—2 f.

pennsylvanicum, (knee knotweed. O. Ju. ☺.) stamens 8: styles 2 or 1: spikes oblong: peduncles hispid: leaves lanceolate: stipules glabrous, not ciliate: stem with swelling knee-joints. 2—4 f. *S.*

amphibium, L. (4) (mud knotweed. O. r. Au. 2ſ.) stamens 5: styles 2, half-united: upper leaves sub-sessile and tapering to the base; middle ones short-petioled and abrupt at the base, lance-oblong and ovate-oblong, gradually tapering to a long-acuminate apex, rough at the edge: spike cylindrical: stem thick, erect, sub-decumbent at the base. Flowers large, red, in a thick spike 2 to 3 inches long. In mud and moist ground.

coccineum, W. (5) (creeping knotweed, lake knotweed. W. r. Au. 2ſ.) stamens 5: styles 2, half-united: leaves long-petioled, oblong, abrupt and sub-cordate at the base, acute at the apex, glabrous and lucid: spike cylindrical: stem thick and strong, decumbent and rooting. Flowers red, in spikes not so long or thick as the last. Stem creeps along the muddy banks of an island in the Hudson, above Troy, from 6 to 12 feet. B. C. O. D.

fluitans, Ea. (6) (swimming knotweed. r. Au. 2ſ.) stamens 5: styles 2, half-united: leaves long-petioled, oblong-oval, tapering to the base,

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(1) incarnatum, E. (2) hydropiper, Mx. hydropiperoides, Ph. (3) hydropiperoides, Mx. (4) Var. terrestre, T. (5) amphibium, Var. natans, Mx. (6) amphibium, Var. natans, 3d. ed. Manual, and Var. aquaticum, T.

obtuse and acute at the apex, glabrous and lucid: stem filiform, wiry, floating, sometimes rooting: spike cylindric. Flowers red, in spikes less than half as long as the last, and not a fourth as large as the preceding. Stem 10 to 15 feet long, often dark-brown and sending off rootlets in clear water. Grows in Whiting's Pound, Columbia county, and in Botany Pond, three miles east of Albany. I have watched this and the two preceding species several years, and am satisfied that they are distinct. Finding this to be a new one, not var. *natans*, of Mx. I give it a new name.

4. *Flowers in spiked-panicled racemes.*

articulatum, (joint-weed, W. r. w. Ju. ☉.) stamens 8: styles 3: racemed spikes in a panicle, filiform: peduncles filiform, solitary, proceeding from above the imbricate truncate bracts: leaves linear: stipules sheathing, truncate. Very abundant on the sandy plains west of Albany. —15 i. *S.* D. T. Y. N. P. B. C. Granby, Con.

5. *Flowers sub-racemed; leaves cordate sagittate or hastate.*

sagitta'tum, (prickly knotweed, scratch grass. O. w. J. ☉.) stamens 8: styles 3 or 1: flowers in heads: leaves sagittate: stem with prickles reversed, or curved towards its base, climbing. *S.*

arifolium, (halbert knotweed. O. r-w. Ju. ☉.) stamens 6: styles 2 or 1: flowers distinct: spikes few-flowered: leaves hastate: stem with prickles reversed, sub-erect. Wet. 2—4 f. *S.*

convol'vulus, (bind knotweed. O. w. r. Ju. ☉.) stamens 8: styles 3: leaves oblong, heart-hastate: stem twining, angled, roughish: divisions of the calyx obtusely keeled. *S.*

scandens, (climbing buck-wheat. O. w. r. Au. 2[.) stamens 8: styles 3: leaves broad-cordate: stipules truncate, naked: stem twining, glabrous: calyx bearing the fruit 3-winged. *S.*

cilino'de, Mx. (Ju. ☉.) stamens 8: styles 3: leaves cordate: stipules, sub-acute, surrounded at the base with an outer ciliate series: stem angled, prostrate or climbing, roughish: divisions of the calyx obtusely keeled. P. C. N. D. Canada.

Exotic.

fagop'yrum, (buck-wheat. W. r-w. Ju. ☉.) stamens 8: styles 3: racemes panicled: leaves heart-sagittate; stem erectish, unarmed: angles of the seeds equal. 1—2 f. Naturalized.

orien'tale, (prince's feather. r. Au. ☉.) stamens 7: styles 2: leaves ovate: stem erect, tall: stipules rough haired, somewhat salver-form. Naturalized. 3—6 f.

Southern.

hirsutum, Wr. (W. w. Ju. ☉.) stamens 7: styles 3-cleft: spikes filiform: stem and stipules very hirsute: leaves lanceolate, hirsute punctate. 2 f.

polygamum, Vent. (1) (w. Au. 2[?) stamens 8: styles 3: spike panicled: flowers solitary: divisions of the calyx obovate: leaves spatulate:

(1) parvifolia, Mx.

stipules entire, obliquely truncate. A variety of the articulatum? Ph. 6—8 i.

fimbriatum, Bl. (w. Au 2[.?) spikes panicled: flowers solitary, fimbriate: stipule truncate, fringed: leaves linear, acute at each end. 2 f.

setaceum, Bald. (w. Ju.) stamens 8: styles 3-cleft: peduncles long, 2-spiked; spikes interrupted, hirsute: leaves broad-lanceolate, acuminate, hirsute: stipules hirsute, ciliate: stem erect, glabrous. 1—2 f.

gracile, N. (g-w. ☉.) dioecious, glaucous: racemes slender, filiform: flowers deflected, longer than the peduncles: peduncle articulated to the calyx: leaves spatulate-linear, obtuse: fruit longer than the calyx. 1—4 f.

17—4. POLYM'NIA. 49. 55.

canadensis, (white leaf-cup. W. w. or y. J. 2[.) viscid-villose: leaves denticulate, acuminate; lower ones pinnatifid, upper ones 3-lobed or entire. 2—3 f. *S.* P. C. D. O. Canada. Harper's Ferry.

uvedu'lia, (1) (yellow leaf-cup. W. A. y. Ju. 2[.) leaves opposite, 3-lobed, acute, decurrent into the petiole: lobes sinuate-angled: rays elongated. 3—5 f. *S.* P. H. O.

21—1. POLYPO'DIUM. 55. 5.

vulgare, (polypod. O. Ju. 2[.) frond deeply pinnatifid: divisions lance-linear, obtuse, crenulate, approximate, upper ones gradually smaller: fruit dots solitary: root chaffy. Var. *virginianum*, has a naked root. 8—12 i. *S.*

hexagonop'terum, W. (W. Ju. 2[.) frond doubly pinnatifid, smoothish; two lower divisions deflexed; subdivisions lanceolate, obtuse, ciliate, those of the under leafets gash crenate, and of the upper ones entire; the lowest ones adnate-decurrent; fruit-dots minute, solitary. The whole frond together presents a triangular form. 12 i. *S.* O. T. M.

connec'tile, Mx. (W. Ju. 2[.) frond doubly-pinnatifid, ciliate; divisions opposite, contiguous, adnate: subdivisions somewhat oval: stipe chaffy: fruit dots minute. 12 i. W. V. C. Canada. Maine.

dryopteris, (2) (W. Ju. 2[.) frond ternate, doubly pinnate, straight, subrigid; divisions obtusish, sub-entire: fruit dots marginal, confluent. 8—12 i. W. P.

Southern.

virginianum, W. (Ju. 2[.) fronds deeply pinnatifid; divisions lanceolate, obtuse, very entire, approximate; upper ones gradually smaller: fruit dots solitary: root solitary.

incanum, W. (3) (O. Ju. 2[.) fronds deeply pinnatifid: divisions alternate, linear, very entire, obtuse; upper ones gradually smaller, scaly beneath: stipe scaly, fruit-bearing at the apex: fruit-dots solitary.

Polymnia. Said to be named after Polymnia, one of the Muses.

Polypodium. Gr. *polûs*, many, and *pous*, foot, because the multitude of roots appear to serve the office of feet.

(1) maculata, Cavanilles. (2) calcarem, W. Nephrodium, Mx. (3) ceteraccinum, Mx. Acrostichum polypodoides, L.

3—2. Polypo'gon. 4. 10.

racemosus, Mx. (1) (Au. 2ℓ.) panicle dense, conglomerate, interrupted: bristles of the calyx scabrous, corol unarmed, hairy at the base: culm branched. B. N.

4—1. Polypre'mum. 40. 46.

Southern.

procumbens, (O. w. Ju. ☉.) stem furrowed, with the margin of the furrows sharp-serrulate, dichotomous above; leaves opposite, linear, sessile, finely serrulate, sub-decurrent. 6—12 i.

17—1. Polyp'teris. 49. 55.

Southern.

integrifolia, N. (2ℓ.) stem erect. sub-scabrous, branching above: leaves alternate, entire, lance-linear, scabrous. 3—4 f.

5—2. Polytæ'nia. 45. 60.

nuttallii, Dc. (W.) leaves three-parted at the top, segments 3-cleft, wedge-form at the base, leaves lanceolate, toothed at the apex. Arkansas.

10—1. Poma'ria. 32. 93.

Southern.

glandulosa, Cavan. (W. y. ♄.) branching, glandular punctate: branches slender, sub-pubescent: leaves abruptly bipinnate; leafets ovate, oblique at the base, entire, sessile, sub-pilose, smooth and pale-green above.

6—1. Pontede'ria. 6. 17.

cordata, (pickerel weed. O. b. Ju. 2ℓ.) leaves heart-oblong, obtuse: spike many-flowered, compact: divisions of the corol oblong. Var. *angustifolia*, Ph. (2) leaves elongated-triangular, truncate and sub-cordate at the base. 1—2 f *S.*

Southern.

lancifolia, M. (b. J. 2ℓ.) leaves lance-oblong: flowers spiked. Probably a variety of the last. Elliott.

Polypogon. Gr. *polūs*, many, and *pōgon*, beard, from the unusul number of awns.

Polypremum. Gr. *polūs*, many, and *premnon*, a stalk or shoot.

Polypteris. Gr. *polūs*, many, and *pteris*, wing, in allusion to the many-valved (or winged) egret.

Polytænia. Gr. *polūs*, many, and *tainia*, fillet, from the fillets between the seeds.

Pomaria. Lat. *pomum*, an apple, or pear, analogous to Pyrola.

Pontederia. In honor of Julius Pontedera, Prof. of Botany at Padua, in Italy.

(1) glomeratus, W. Agrostis, Mx. (2) Species of Ph. mucronata, Rs.

20—8. Pop'ulus. 50. 99.

tremuloides, Mx. (1) (white poplar, american aspen. W. Ap. ♄.) leaves heart-roundish, abruptly acuminate; tooth-serrulate, glabrous, a little pubescent at the margin, with two glands at the base on the upper side; petioles compressed, in the young state silky. 20—30 f. T. B. P. C. D. F. O. N. V.

grandidenta'ta, (2) Mx. (tree poplar. W. Ap. ♄.) leaves round-ovate, acute, unequally and coarsely sinuate-toothed, glabrous; in the young state villose: petioles compressed. Var. *pendula*, branches pendulous. 40—50 f. S. T. F. B. C. N. P.

betulifolia, Ph. (3) (birch-leaf poplar. Ap. ♄.) leaves rhomboidal, long-acuminate, dentate, glabrous: young branches pilose. 30—40 f. T. Y. V. C. N.

angulata, (4) (balm of gilead, water poplar, cotton wood. O. Ap. ♄.) leaves ovate-deltoid, acuminate, obtusely hook-toothed, glabrous; younger ones broad-cordate: branches wing-angled. 80 f.

balsamifera, W. (balsam poplar. Ap. ♄.) leaves ovate-acuminate, with close-pressed serratures, white and net-veined beneath: buds resinous. 70—80 f. T. N. V. C. W. Canada.

candicans, A. (5) (W. Ap. ♄.) leaves cordate, ovate, acuminate, obtusely and unequally serrate, whitish beneath, sub-3-nerved, net-veined; petioles hirsute: buds resinous: branches terete. 40—50 f. Y. C. D.

lævigata, W. (6) (cotton tree. W. Ap. ♄.) leaves round-ovate, deltoid, acuminate, sub-cordate, unequally serrate, glabrous, glandular at the base; petioles compressed: younger branches angled. 70—80 f. S. T. P. F. D.

heterophylla, Mx. (various leaved poplar. W. M. ♄.) leaves round-ovate, cordate, with a small sinus, sub-auricled, obtuse, hook-toothed; younger ones downy. 70—80 f. S. P. C. N.

monilifera, W. (W. Ap. ♄.) leaves sub-cordate deltoid, glabrous, glandular at the base, with cartilaginous, sub-pilose, hooked serratures: nerves spreading: petioles compressed above; older branches terete. 60—70 f. Troy. Albany.

Exotic.

dilitata, W. (lombardy poplar, italian poplar. Ap. ♄.) leaves glabrous both sides, acuminate, serrate, deltoid, the breadth equal to, or exceeding the length: branches erect, close to the stem. It is said no pistillate plant of this species has been brought to America. Consequently no seeds are obtained from it, and it has not been reproduced here from seed. 40—80 f.

graeca, W. (athenian poplar. Ap. ♄.) leaves cordate-ovate, acuminate, obsoletely serrate: petioles compressed. 20—40 f.

12—13. Porcel'ia. (7) 52. 76.

triloba, W. (custard apple. p. Ap. ♄.) leaves smoothish, oblong-

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Populus. Lat. *populus*, the people; the walks at Rome having been shaded with the P. dilitata, hence it was called the people's tree.

Porcelia. In honor of Porcel, a distinguished Spanish botanist.

(1) trepida, W. (2) trepida M. (3) hudsonica, Mx. younger. nigra, Mx. elder. (4) heterophylla, Du Roi. (5) latifolia, Mu. (6) canadensis, Mx. (7) Orchidocarpum, Mx. Annona, W. Asimina, Ad.

wedge-obovate: outer petals orbicular: fruit large, fleshy. 30—40 f. S. M. K.

Southern.

parviflor, Mx. (g-p. M. ♄.) leaves wedge-obovate, mucronate, under surface and branches rufous pubescent: outer petals scarcely twice as long as the calyx. 2 f.

pygmæa, Mx. (Ap. ♄.) leaves long-linear, wedge-form, obtuse, coriaceous, with the branches glabrous: outer petals obovate-oblong, much larger than the calyx. 6—18 i. Florida.

grandiflora, Mx. (y-w. Ap. ♄.) leaves wedge-obovate, obtuse, under surface and branches rufous pubescent: outer petals obovate, much larger than the calyx. 18—24 i.

12—1. PORTULAC'CA. 54. 86.

oleracea, (purslane. O. y. J. ☉.) leaves wedge-form: flowers sessile. *S.*

Southern.

pilosa, (W. ☉.) leaves subulate, alternate: axils pilose, flowers sessile, terminal.

4—4. POT'AMOGE'TON. 15. 7.

natans, (pond-weed. O. g. J. 2ſ.) leaves long-petioled, floating, lance-oval; at first some of them are sub-cordate. On water. *S.*

fluitans, (W. g. Ju. 2ſ.) lower leaves long, linear; upper ones lanceolate, nerved coriaceous; all petioled. In water. *S.* B. C. F. N.

heterophyllum, Sr. (1) (variegated pond weed. W. g. Ju. 2ſ.) upper leaves petioled, oval, tapering to both ends: lower ones crowded, sessile, linear. *S.* T. P. Y. C. N. F.

diversifolium, B. (2) (O. g. Ju. 2ſ.) floating leaves opposite, lanceolate, 5-nerved, short-petioled: submersed ones sessile, alternate, filiform: spikes dense, axillary, alternate, shorter than the leaves. Water. *S.*

perfoliatum, (W. g. Ju. 2ſ.) leaves heart-ovate, clasping, all immersed: spikes terminal, above water: flowers alternate. In water. P. Y. T. B. C. N. F. V.

lucens, Mx. (O. g. J. 2ſ.) leaves very large, lanceolate, sub-sessile, middle rib thick: spike long, cylindric. The substance of the leaf is composed of translucent cellules: so that to the naked eye it appears to be a thin pellucid membrane. Spike from 1 to 2 inches long, with a peduncle thrice as long. The stipule above each leaf is about an inch in length; its substance resembling the leaf. Water. *S.*

crispum, (r-g. J. 2ſ.) leaves alternate, or opposite, lance-oval, undulate, serrate: spikes few-flowered. *S.* T. P. Canada.

pectinatum, S. (3) (W. g. J. 2ſ.) leaves long-bristle-form, approximate, two-ranked, sheathed at the base: spikes terminal, interrupted, whorled: fruit ovate, turgid. All immersed in water but the spike. T. V. P. C. Pittsfield, Mass.

Portulacca. Lat. *porto*, to carry, and *lac*, milk, because it increases the milk of animals.

Potamogeton. Gr. *potamos*, river, and *geitōn*, neighbor, because it is always found in water.

(1) hybridum, Mx. (2) setaceum, Ph. (3) marinum, Mx.

gramin'eum, Mx. (1) (grass pond-weed. O. g. Ju. 2ſ.) leaves linear, grass-like, alternate, sessile: stipules broad: stem terete, sub-dichotomous. In July, some of these plants begin to raise their spikes of unopened flower-buds to the surface of the water. As soon as the stigmas are fertilized by the pollen, the spikes are again withdrawn to ripen the fruit under water. Other individuals succeed them, and the process goes on for several weeks. *S.*

compressum, (W. & n. ☺. or 2ſ.) leaves linear, obtuse: stem compressed: spike short, 4 to 6-flowered. Water. P. Y. T. K.

zosterifolium, Trin. (g-y. Au. 2ſ.) leaves alternate, linear, closely sessile: stem flexuous, compressed, sub-alate, branches axillary: stipules lance-linear, acute: spike many (20—40) flowered. 2—3 f. Hudson and Susquehanna rivers. Streams in Virginia. Aikin.

11—13. POTENTIL'LA. 35. 92.

1. *Leaves ternate.*

tridentata, A. (mountain cinquefoil. A. w. Ju. 2ſ.) ascending, smoothish: stipules subulate: leaves wedge-oblong, 3-toothed at the end, a few close-pressed hairs: flowers in a terminal forked corymb: petals oblong-ovate, longer than the calyx, 5—10 i. *S.* D. White Mts. Massachusetts.

emarginata,, Ph. (2ſ.) assurgent, hirsute: stipules ovate, entire: leaves ternate; leafets sessile, approximate, gash-toothed, hirsute on both sides: pedicels few, terminal, elongated, 1-flowered: petals wedge-oblong: emarginate, twice the length of the calyx. Labrador.

nivea, W. (y. Ju. 2ſ.) assurgent, woolly-tomentose: stipules ovate, entire: leafets sessile, approximate, gash-toothed, hirsute above, white tomentose below: peduncles few, terminal, 1-flowered: petals broad-obcordate, scarcely longer than the calyx. Labrador.

villosa, Ph. (hairy five finger. W. 2ſ.) assurgent, silky-villose: stipules broad, membranaceous, entire: leafets sessile, approximate, with shining, close-pressed hairs above, hoary-tomentose beneath: peduncles short, aggregate: petals obcordate, longer than the calyx.

hirsuta, Mx. (W. w. Ju. 2ſ.) erect, simple, very hirsute: stipules lanceolate, entire: leaves obovate, gash-laciniate: panicle few-flowered; pedicels short: petals smaller than the calyx. Canada. Western part of New York.

norwegica, (cinquefoil. O. y. J. ☺.) erect, branching, hairy: stipules like an ovate halved longitudinally; toothed: leafets lance-rhombic, gash-toothed: branches dichotomous: pedicels short, axillary solitary: petals shorter than the calyx. 8—18 i. *S.*

nana, Lehm. ( ) stem erect, 1-flowered: leaves ternate; leafets round-obovate, obtusely dentate, both sides pilose, becoming white beneath: petals obcordate, 3 times as long as the calyx. R. A.

fragiformis, W. ( ) stem erect, few-flowered: leaves ternate; leafets round-obovate, obtusely dentate, both sides spreading pilose, villose at the margin: petals obcordate, a little longer than the calyx.

vahliana, ( ) stem erect, somewhat 1-flowered: leaves ternate; lateral leafets cuneiform, trifid, terminal one rhomboid, very hirsute, be-

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Potentilla. Lat. *potentia*, power, from its imaginary medical virtues.
(1) *pauciflorum*, Ph.

heath shining, whitish, or becoming yellow-tomentose: petals reniform, twice as long as the calyx. R.

biflora, Lehm. ( ) stem erect, somewhat two-flowered at the apex: leaves ternate, very slenderly pilose; lateral leafets deeply two-parted; terminal one 2-parted; segments linear, very entire, ciliate at the margin. R. A.

2. *Leaves digitate, in fives, rarely in sevens.*

canadensis, (1) (common five-finger. O. y. M. 2ℓ.) procumbent, sub-ramose, whitish-silky: stipules ovate, gashed: leaves wedge-obovate, gash-toothed: stem ascending and creeping, hirsute: peduncles solitary, elongated: divisions of the calyx lance-linear: petals orbicular, sub-entire, of the length of the calyx. This plant is so long in flower, and assumes so many forms and sizes, that students in botany often make several species of it. Persoon's diagnosis of *reptans* can be found in this plant; but we have no such species. 2—18 i. *S.*

simplex, Mx. (W. y. M. 2ℓ.) erect, simple, hirsute: stipules gashed: leaves oblong-oval, coarsely toothed, upper ones sessile: peduncles axillary, solitary, elongated, 1-flowered: divisions of the calyx lance-linear: petals round-obcordate, longer than the calyx. T. Y. V. P. B. C. D. F.

sarmento'sa, M. (y. M. 2ℓ.) stem sarmentose: leaves quinate: leafets obovate, obtuse, serrate, glabrous above, hirsute beneath: petals roundish, longer than the calyx. B.

opaca, W. (y Ju. 2ℓ.) decumbent, filiform, hirsute: stipules linear-oblong, entire: radical leaves in 7's and 5's, wedge-linear, dentate: peduncles axillary, solitary, 1-flowered: petals retuse, as long as the calyx. Labrador.

dissecta, Ph. (2ℓ.) erect, branching, nearly glabrous: leaves quinate; leafets pinnatifid; divisions entire, acute: flowers terminal, sub-corymbed. Hudson's Bay.

argentea, (silvery five-finger. O. w-y. Ju. 2ℓ.) stem prostrate and ascending, rarely sub-erect, branching, white-downy: stipules ovate-acute: leaves wedge-form, gash-toothed, silvery-white down beneath: petals retuse, scarcely longer than the calyx. 4—10 i. *S.*

recta, P. (y. J. 2ℓ.) stem erect: leaves in fives and sevens; leafets lanceolate, coarsely toothed: petals ob-cordate, larger than the calyx: corol large, pale. P.

gracilis, Doug. ( ) stem erect, high, corymb-panicled above, softly hirsute: leaves long-petioled, growing in fives; upper ones in some manner sessile; leafets lanceolate, deeply pinnatifid serrate; beneath white-tomentose: stipules large, lanceolate, very entire: petals obcordate, longer than the silky calyx. R.

flabelliformis, Lehm. (y.) stem erect, slender: leaves in sevens or nines; leafets deeply pinnatifid, above close-pressed-pilose, beneath white-tomentose; divisions linear, distant, revolute at the margin: flowers corymbed; petals obcordate, exceeding the calyx.

chrysantha, Trevir. ( ) stem ascending: leaves in fives or sevens; leafets elliptic, coarsely serrate, pubescent: upper stipules somewhat gashed: petals obcordate, twice as long as the calyx. R.

concinna, Rich. (y.) stem abbreviated, few-flowered: radical leaves

(1) pumila, Lk.

in fives or sevens; leafets cuneate, obovate, serrate at the apex, beneath very densely white-tomentose: petals obcordate, exceeding the calyx. A.

3. *Leaves more or less pinnate.*

fruticosa, (1) (shrubby cinquefoil. W. y. J. ♄.) fruticose, hirsute: stipules ovate, entire: leaves quinate-pinnate; leafets linear-oblong, entire: petals longer than the calyx. 1—5 &. S. V. W. Y. P. B. D. O. N. Canada.

anserina, (tansey cinquefoil, silver-weed. O. y. J. 2ſ.) creeping: leaves interruptedly pinnate, leafets numerous, gash-serrate, silky, white-downy beneath: peduncles solitary, 1-flowered. Var. *grœnlandica*, nearly glabrous, very small: leaves much smaller, in few pairs; leafets obovate, reddish-green, whitish beneath.

pennsylvanica, (W. y. Ju. 2ſ.) erect, very soft, and somewhat whitish-villose: leaves pinnate; leafets oblong, obtuse, sub-pinnatifid, woolly: panicle straight, many-flowered: divisions of the calyx semi-oval. It is doubtful whether this is an American species. Torrey. P. Y. T. W. V. C. D.

supina, (W. y. J. ☉.) procumbent, dichotomous: leaves pinnate; leafets oblong, deeply toothed: peduncles lateral, solitary, 1-flowered, spreading. S. P. D. Canada.

leucophylla, T. & J. (W.) erect: leaves pinnately divided; lobes oblong, deeply and sharply serrate, whitish-silky on both sides: stipules lanceolate, acute, very entire or 1-toothed: flowers lax corymbed: divisions of the calyx lanceolate, very entire, narrower than the bracts: receptacle pilose: pericarp smooth. 15 i.

arguta, Ph. (2) (O. w. J. 2ſ.) stem erect, pubescent, viscous above: leaves unequally pinnate, leafets somewhat round-ovate, oblique at the base, doubly-gash-toothed: stipules sub-entire: calyx acute, somewhat shorter than the corol. 1—3 f. C. T. R. A. N.

effusa, Doug. (y.) hoary-tomentose: stem ascending, weak: leaves interruptedly pinnate; leafets oblong, gash-serrate: flowers dichotomous-panicled: stipules lanceolate, acuminate, very entire: petals obcordate, equalling the acuminate calyx. R.

bipinnatifida, Doug. ( ) stem erect: leaves pinnate; leafets obovate, pectinate-pinnatifid; above silky-silvery; beneath white-tomentose: stipules rhomboid, gashed: flowers corymbose-crowded. R. A.

sericea, L. ( ) stem ascending, few-flowered: leaves pinnate; leafets ovate, pinnatifid; both sides tomentose; beneath hoary: stipules lanceolate, very entire. Var. *glabrata*, younger and older leafets silky only at the apex. R.

drummondii, Lehm. (y.) stem herbaceous, sub-erect, lax; radical leaves irregularly sub-verticillately pinnate; cauline ones two-paired; leafets obovate, truncate, cuneate at the base, deeply gash-serrate, ciliate, a little glabrous: stipules ovate, very entire: petals obcordate, veiny, twice as long as the calyx. R.

4. *Leaves pinnate-digitate.*

diversifolia, Lehm. (y.) stem ascending: radical leaves pinnate, somewhat 3-paired and quinate; cauline ones two-paired, digitate,

(1) floribunda, Ph. (2) Bootia sylvestris, Bw. See page 200.

ternate, leafets cuneiform, above coarsely gash-serrate, silky pilose at the apex: stipules lance-ovate, very entire: petals obcordate, longer than the calyx. R.

pulcherrima, Lehm. (y.) stem ascending, villose: leaves pinnate with an odd terminal leafet: leafets densely crowded, elliptic, equally serrate, close pressed-pilose above, white-tomentose beneath: stipules ovate, acute, very entire, woolly: petals obcordate, longer than the calyx. R.

rubricaulis, Lehm. (y.) stem ascending: radical leaves pinnate, two-paired; cauline ones ternate; leafets approximate, oblong, pinnatifid-serrate, glabrous above, tomentose beneath: stipules very entire: petals obcordate, somewhat exceeding the calyx: receptacle subglabrous. A.

pulchella, Br. (y.) stem procumbent, somewhat 1-flowered: leaves pinnate, somewhat two-paired, silky-tomentose beneath; leafets twice 3-lobed or linear, very entire, margin revolute, unequally pinnatifid: stipules sheathing: style glandulous-dilated at the base. A.

Southern.

humifusa, N. (W. y. M.) leaves digitate, quinate; leafets wedge-oblong, obtuse, gash-toothed, white-tomentose beneath: peduncles short, filiform, procumbent. 4—5 i.

Potentilla, COMARUM.

19—13. POTE'RIUM. 54. 92.

annuum, N. (W. ☉.) herbaceous; glabrous: stem erect, dichotomous: leafets 4—5-paired, ovate, deeply pectinate-pinnatifid; divisions linear, very narrow: little heads oval. Red river.

sanguisor'ba, (burnet. J. 2f.) stem somewhat angled, unarmed: leaves pinnate: leafets serrate: flowers in heads. Lake Huron.

Pothos, ICTODES.

17—1. PRENAN'THES.* 49. 53.

alba, (white lettuce. O. w. p. Au. 2f.) radical leaves angled, hastate, toothed, somewhat lobed; cauline ones round-ovate, toothed, petioled; uppermost ones lanceolate: panicle lax; the terminal fascicle nodding: calyx 8-cleft, 9 or 10-flowered. Var. *nana*, Bw. low: leaves 3-parted, hastate, ovate and lanceolate, sometimes all simple: racemes panicled or simple. 1—3 f. *S.*

serpentaria, Ph. (W. p. Au. 2f.) leaves toothed, rough; radical ones

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Poterium. Gr. *poterion*, a cup, a beverage, from its being used as a cooling drink.

Prenanthes. Gr. *prēnēs*, drooping, and *anthos*, flower, from the pendulous flowers.

*My friend and pupil Mr. Riddell, has announced four new species of Prenanthes, which he names, *miamiensis*, *ovata*, *parviflora*, and *proteophylla*. As several other botanists have proposed to me new species in this deceptive genus, I defer their publication for the present, to avoid interference, and the increase of doubtful species.

palmate, minute; cauline ones long-petioled, sinuate pinatifid, sub-3-lobed; middle lobe 3-parted; upper leaves lanceolate: racemes terminal, panicled, short, nodding: calyx 8-cleft, 12-flowered. Probably a variety of the *alba*. 2—4 f. *S.* P. C.

altissima, (W. p-y. Au. 2*f*.) stem branching: leaves petioled, 3-lobed, angled, denticulate; margin scabrous: racemes axillary: flowers nodding: calyx about 5-flowered. 4—8 f. *S.* P. C. D. O. N.

cordata, W. (w-y. Au. 2*f*.) stem panicled above: leaves petioled, cordate, toothed, ciliate; floral ones sessile, oblong, entire: panicle lax, raceme-flowered. 4—6 f. *S.* P. C. N.

virgata, Mx. (1) (O. w-p. Au. 2*f*.) glabrous: stem very simple: leaves all lyrate-sinuate: branchlets somewhat 1-sided: flowers pendant: calyx glabrous, 8 cleft, 10-flowered. 3—6 f. *S.* P. Y. Pittsfield, Mass.

crepidinea, Mx. (W. S.) leaves broad-lanceolate, attenuated at the base, unequally tooth-angled: panicle fascicled, terminal, few-flowered, nodding: calyx hirsute, 10—12-cleft, about [illegible]-flowered. 4—6 f. *S.* D.

rubicunda, W. (S. 2*f*.) leaves ciliate, radical ones hastate-angled, sub-entire; lower cauline ones obovate, tapering at the base, sub-angled; upper ones lanceolate, entire: racemes simple, flowers nodding. This was considered a variety of the *alba*, by Linneus, and is made synonymous with the *virgata*, by Mr. Nuttall. 18 i. C.

racemosa, Mx. (W.) stem simple: leaves all undivided, smooth; radical ones lance-oval; cauline ones half-clasping: racemes oblong, very hirsute; fascicles nodding: calyx 8—9-parted, 9—12-flowered. 14 i. Goderich, U. C.

deltoidea, E. (W. p. S.) stem simple, glabrous: leaves deltoid, acuminate, acutely-denticulate, sub-glaucous beneath: racemes axillary, few-flowered: calyx 5-flowered. 2 f. *S.* P. O.

pauciflora, T. & J. (W.) stem branching, flexuous, panicled above: branchlets 1-flowered: flowers erect: leaves lance-linear, runcinate, glabrous: calyx about 5-flowered.

tenuifolia, T. & J. (W.) stem branching, glabrous: leaves linear, very entire: panicle lax, terminal: flowers erect: calyx about 5-flowered. This and the preceding species were collected near the Rocky Mountains by Dr. James. They will probably hereafter be referred to a new genus. Torrey.

Southern.

simplex, Ph. (p. Ju.) stem simple: upper leaves lance-linear, entire; radical ones lanceolate, sinuate: raceme terminal, simple: flowers nodding: calyx 8-flowered. Is this distinct from the virgata? Elliott. 2 f.

illinoiensis, P. (W.) stem simple, and with the leaves, very rough: leaves all undivided, lance-oval: raceme long; fascicles sub-sessile, erect, hirsute.

aphylla, N. (p. r. M. 2*f*.) stem sub-simple; branches virgate: radical leaves linear; cauline ones small, subulate, scattered: flowers solitary: calyx 8-cleft, many-flowered. 2 f. Is this distinct from the next? Florida.

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(1) autumnalis, Wr. rubicunda, W.?

5—1. Pri'mula. 21. 35.

farinosa, var. *americana*, (bird's eye primrose. W. r. 2f.) leaves obovate-spatulate, repandly crenate-dentate, mealy beneath: umbel erect, many-flowered; peduncles spreading: limb of the corol flat, as long as the tube; divisions obtuse, obcordate. 6—10 i. D. Canada.

mistasinica, Mx. (W. 2f.) small, glabrous: leaves oval-spatulate, sub-dentate: scape elongated: umbel few-flowered; limb of the corol reflexed; the divisions wedge-oblong, obtusely 2-cleft: capsule oblong, exsert. Canada. D.

angustifolia, T. & J. (W. p.) leaves lance-oval, very entire, glabrous: scape 1-flowered; divisions of the corol ovate, very entire. 1—2 i.

Exotic.

acaulis, (primrose. 2f.) leaves rugose, toothed, hirsute beneath: scape 1-flowered.

veris, (cowslip primrose. r-y. 2f.) leaves rugose, toothed: limb of the corol concave; neck of the tube oblong: calyx inflated.

elatior, (oxlip primrose. w-y. 2f.) leaves rugose, toothed, hirsute: limb of the corol flat; neck of the tube hemispheric; flowers naked within.

auricula, (auricula primrose. 2f.) leaves serrate, fleshy, obovate: scape many-flowered: calyx mealy.

6—1. Pri'nos. 43. 95.

verticillatus, L. (1) (winter berry, false alder. W. w. J. ♄.) leaves deciduous, oval, serrate, acuminate, pubescent beneath; fascicles of staminate flowers axillary, umbelliferous; the pistillate flowers are aggregated; both 6-parted. Var. *tenuifolius*, leaves obovate, membranaceous, smooth beneath; pistillate flowers 4—5-cleft, sub-solitary. Sometimes this shrub is monœcius, and sometimes perfect-flowered. Generally in wet places. Berries red, permanent. 4—8 f. *S.* B. P. C. D. F. O. N. T.

glaber, (ink-berry. Ju. ♄.) leaves evergreen, wedge-lanceolate, coriaceous, glabrous, shining, equally sub-dentate above: pedicels axillary, sub-solitary, mostly 3-flowered. 3—4 f. *S.* P. Y. B. C. T. Canada.

lævigatus, Ph. (W. Ju. ♄.) leaves deciduous, lanceolate, close-pressed, serrate, acuminate, glabrous both sides, shining on the upper side, hardly pubescent at the nerves beneath: pistillate flowers axillary, solitary, sub-sessile; staminate flowers scattered; all 6-cleft. 6—8 f. *S.* P. Y.

ambiguus, Mx. (w. J. ♄.) leaves deciduous, oval, acuminate at both ends, mucronate serrulate, sub-pubescent beneath; flowers 4 or 5-cleft; staminate ones crowded together on the lower branches; pistillate ones solitary. Flowers perfect, 7-cleft: stamens 7. Brunswick. Wet or damp. 3—5 f. *S.* T. Y. B. C.

Primula. Lat. *primus*, first, it being almost the first flower in spring.

Prinos. Greek name for the scarlet oak (saw-leaved oak) applied on account of its scarlet berries in winter.

(1) gronovii, Mx.

Southern.

integrifolius E. (ħ.) leaves deciduous, oval, entire, mucronate, petioled, glabrous on both sides: pistillate flowers solitary, long-peduncled. A small tree.

lanceolatus, Ph. (W. J. ħ.) leaves deciduous, lanceolate, finely and remotely serrulate, acute at each end, glabrous on both sides: pistillate flowers scattered, generally in pairs, peduncled, 6-cleft; staminate ones aggregate, triandrous. Berries small, scarlet.

coriaceus, Ph. (1) (M. ħ.) leaves perennial, broad-oval, acute, serrate near the apex, lucid above, minute-punctate beneath; pistillate flowers solitary, about 8-parted: staminate ones aggregate, octandrous. Var. *latifolia*, leaves lance-obovate, acuminate. Var. *angustifolia*, leaves lanceolate, acute. 5—6 f.

Prismatocarpus, CAMPANULA.

3—3. PROS'ERPINA'CA. 15. 88.

palustris, (mermaid weed. g. Ju. ☺.) leaves linear-lanceolate, serrate above water, pinnatifid below water. *S.* N. C. Y. P. T. B. F. Pittsfield.

pectinata, Lk. (g. Ju. ☺.) leaves all pectinate-pinnatifid. Water. *S.* P. Y. Dayton, O.

10—1. PROSO'PIS. 33. 93.

glandulosa, T. & J. (W. ħ.) spines thick, cylindric-conic: leaves conjugate-pinnate, or pinnate in one pair: leafets distant, 6—7-pairs, linear, sub-falcate, obtuse, glabrous, sub-coriaceous: petiole between the leaves and leafets glandular: legumes straight: spikes cylindric.

13—1. PRUNEL'LA. 42. 42.

vulgaris, var. *pennsylvanica*, (heal-all, self-heal. O. J. 2f.) leaves petioled, oblong-ovate, toothed at the base: lips of the calyx unequal; upper one truncate, awned: stem ascending. 6—12 i. *S.*

12—1. PRU'NUS. 36. 92.

1. *Flowers in racemes.*

virginiana, (2) (wild cherry, rum cherry, cabinet cherry. O. w. M. ħ.) racemes erect, elongated: leaves oval-oblong, acuminate, unequally serrate, glabrous both sides: petioles generally bearing 4 glands. In open fields the limbs of this tree spread out into an elegant oval top; but in dense forests it grows to a very great height, with a few contracted branches. 30—60 f. *S.*

Proserpinaca. Lat. from the goddess Proserpina: being partly concealed below the surface of the water, or mud.

Prosopis. Gr. *prosopon*, face, from the appearance of the fructification.

Prunella. Altered from Brunella, from the German *die (Breune)* a disease in the jaws and throat, which it is said to cure.

Prunus. Lat. *prunus*, Gr. *prouns*, plum, said to be derived from an Asiatic word for the wild plum.

(1) atomarius, N. (2) rubra, A. Cerasus, Mx.

serotina, W. (1) (choke-cherry. O. w. J. ♄.) flowers in lax racemes: leaves oval, short-acuminate, opake, doubly and acutely serrate: midrib bearded on each side towards the base: petiole with 2 glands. This and the preceding species have been confounded by many botanists. T. 10—20 f. *S.*

canadensis, (w. ♄.) flowers in racemes: leaves glandless, broad lanceolate, rugose, sharply serrate, pubescent both sides, tapering into the petiole. *S.* P. Canada.

obovata, Bw. (2) (w. M. ♄.) racemes spreading: leaves obovate, acute, very sharp-serrate, glabrous. Fruit red, bitter and astringent. A large shrub. K.

emarginata, Doug. ( ) racemes corymbose: pedicels elongated, both the pedicels and segments of the calyx ovate, obtuse, reflexed, glabrous: leaves oval, minutely tooth-serrate, glabrous; acute and biglandulous at the base; obtuse and often emarginate: at the apex fruit globose. 4—8 f. R.

mollis, Doug. (♄.) racemes shortish; racemes and calyx downhairy (segments reflexed) leaves obovate oblong, crenate, pubescent beneath: fruit ovate. R.

2. *Peduncles sub-umbellate or solitary.*

pennsylvanica, A. (3) (W. w. M. ♄.) flowers sub-corymbed; pedicels elongated: leaves oval-oblong, acuminate, erose-denticulate, smooth: petioles with 2 glands: branches punctate. 8—12 f. *S.* P. Y. B. N.

pygmæa, W. (american sloe. O. w. M. ♄.) umbels sessile, aggregated, few-flowered: leaves oval-ovate, acute, glabrous both sides, sharply serrate, 2 glands at the base. 3—4 f. *S.*

americana, Marshall. (4) (meadow plum. O. w. M. ♄.) somewhat thorny? pedicels aggregated, 3—5: stipules setaceous, compound: leaves oblong-oval and obovate, abruptly and strongly acuminate, doubly serrate: fruit sub-ovate, mostly solitary, reddish-yellow, with a thick coriaceous skin. 12—15 f. Dn. M. S. Plum about the size of the damson; very sweet when ripe, stiptic before. *S.*

chicasa, Mx. (5) (summer plum, meadow plum? W. w. M. ♄.) branches very glabrous, somewhat thorny: leaves oblong-oval, acute or acuminate, minutely serrate: buds aggregated, each about 2-flowered: pedicels very short: divisions of the glabrous calyx obtuse: fruit subglobose. The plums are yellow and reddish? P.

pubescens, Ph. (6) (M. ♄.) umbels sessile, aggregated, few-flowered: peduncles and calyx pubescent: leaves short-oval, serrulate: drupe spherical. 2—3 f.

maritima, Mx. (L. w. M. ♄.) peduncles sub-solitary: leaves ovate-oblong, acuminate, doubly serrate. Pursh has copied in the P. *acuminata* of Mx. as a synonym, which is—branchlets glabrous; leaves oblong-oval, long, acutely acuminate: calyx glabrous: drupe long peduncled, ovate, acuminate. Y.

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(1) virginiana, Miller. (2) serotina, Ph?
(3) lanceolata, W. borealis, Ph. Cerasus borealis, Mx.
(4) hiemalis? Mx. nigra? M. spinosa? Wr. (5) insititia, Wr.
(6) sphaerocarpon, Mx.

pu'mila, (w. M. ♄.) umbels sessile, aggregate, few-flowered: calyx acute: branches wand-terete: leaves narrow-lanceolate, serrate above, the under sides pale. 2—3 f. *S.* P. W. N.

depressa, Ph. (sand cherry. W. w. M. ♄.) umbels sessile, aggregate, few-flowered: calyxes obtuse: branches angled, depressed, prostrate: leaves wedge-lanceolate, remotely serrate, glabrous, glaucous beneath: fruit ovate. Is this the pumila? P. T. N. D. Canada.

susquehanna, W. (w. M. ♄.) peduncles solitary: leaves obovate-oblong, glaucous beneath, serrate, entire at the base. P.

littoralis, Bw. (1) (beach plum. L. w. M. ♄.) umbels crowded, few-flowered: peduncles and calyx sub-pubescent: leaves oval, acute, serrate, with the veins pubescent beneath. The size and color of the fruit is subject to considerable variation. Bw.

cerasifera, W. (w. M. ♄.) peduncles solitary; leaves oval, glabrous: fruit pendant: branches almost thornless.

Exotic.

spinósa, W. (english sloe. ♄.) peduncles solitary: leaves lance-oval, pubescent beneath: fruit straight: branches thorny.

cerasus, (garden cherry. w. r. ♄.) umbel sub-peduncled: leaves lance-ovate, glabrous, conduplicate.

padus, (bird cherry. w. M. ♄.) flowers racemed, lax: leaves doubly serrate, sub-rugose, petioled, with 2 glands.

avium, (small bird cherry. w. ♄.) umbels sessile: leaves lance-ovate, pubescent beneath, conduplicate.

domestica, (plum. w. M. ♄.) peduncles sub-solitary: leaves lance-ovate, convolute: branches thornless. Var. *juliana*, (damson plum) fruit oblong, blue. Var. *claudiana*, (sweet plum, horse plum) fruit round, at first green, becoming yellowish. Var. *enucleata*, (stoneless plum) the putamen obsolete.

Southern.

caroliniana, W. (2) (w. Ap. ♄.) flowers racemed: leaves perennial, lance-oblong, mucronate, serrate and entire, glandless, smooth. Middle size tree. Florida.

sempercflórens, W. (W. M. ♄.) racemes leafy, pendulous: calyx serrate: leaves ovate, serrate, glabrous, glandular at the base. Small shrub.

hirsuta, E. (Ap. ♄.) racemes straight: leaves oval, serrulate, glandless? under surface, calyx, peduncles and petioles hirsute. 3—4 f.

umbellata, E. (w. Mar. ♄.) umbels terminal, many-flowered: leaves lanceolate, sub-acuminate, serrulate, glabrous, with 2 glands at the base: calyx pubescent.

3—2. PSAM'MA. (3) 4. 10.

arenaria, (L. Au. 2[.) panicle spiked calyx acute: corol thrice as long as the chaff: leaves involute. 2—3 f. *S.* B.

Psamma. Gr. *psammos*, sand, in which this grass grows abundantly on the sea coast of Europe.

(1) sphaerocarpa, Mx? (2) lusitamea, Wr. (3) Arundo, L.

21—1. PSILO'TUM. 55. 5.

Southern

triquetrum, Sz, (1) (J. 2ℓ.) stem naked, dichotomous: with the branches 3-angled.

16—10. PSORA'LEA. 32. 93.

esculenta, Ph. (bread root. W. b. J. 2ℓ.) wholly villose; leaves quinate-digitate, leafets lanceolate, unequal, flat, very entire: spikes axillary, dense-flowered: divisions of the calyx lanceolate, a little shorter than the corol: legume ensiform, beaked: root fusiform. The root affords a staple article of diet to the western Indians. 12—18 i. *S.*

incana, N. (2) (W. b. Ju. 2ℓ.) wholly silky-tomentose: leaves quinate and ternate; leafets lance-oblong: spikes terminal, interrupted: bract ovate, acuminate; flowers nearly opposite, sessile. 12 i. *S.* Red River. Canada. D.

physodes, Doug. (W.) glabrous: leafets in 3, rarely 5 pairs, broad rhomb-ovate, acute, mucronate, obscurely glandular, terminal one long-petioled; racemes peduncled, lax, axillary, longer than the leaf. R.

lanceolata, Ph. (3) (W. w-b. Au. 2ℓ.) sub-pubescent: stem erect, sparingly branched: leaves ternate; leafets oval, and lance-oval, obtuse, sub-mucronate; peduncles longer than the leaves: spikes capitate, many-flowered: bracts deciduous: teeth of the calyx small, obtuse. 1 f. R. Missouri.

latifolia, T. & J. (W. J. 2ℓ.) leaves ternate; leafets broad-ovate, acuminate, nearly glabrous, ciliate on the margin: terminal one long-petioled: peduncles axillary: spikes lax-flowered, elongated: bracts caducous: calyx glabrous: teeth acutish. 2—3 f. This and the *jamesii* probably belong to some other genus. Torrey.

Southern.

canescens, Mx. (W. y. J. 2ℓ.) hoary: leaves ternate, short-petioled, broad-lanceolate: spikes lax-flowered: flowers pedicelled: calyx pilose. 2—3 f.

tenuiflora, Ph. (W. b. S. 2ℓ?) pubescent, very branching: leaves ternate; leafets oval, rugose-punctate on both sides: peduncles axillary, about 3-flowered, longer than the leaves. 2 f.

lupinella, Mx. (p. J. 2ℓ?) glabrous: leaves digitate, long-petioled; leafets filiform: racemes many-flowered, longer than the leaves: legumes rugose. 2 f.

longifolia, Ph. (W. w? 2ℓ.) wholly silky-villose: leaves ternate; leafets long-linear: spikes axillary, peduncled, lax-flowered, shorter than the leaves: teeth of the calyx and bracts subulate.

cuspidata, Ph. (W. 2ℓ.) villose: leaves digitate-quinate: leafets obovate,

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Psilotum. Gr. *psilos*, naked, being nearly destitute of leaves.

Psoralea. Gr. *psoraleos*, scabby, some parts of the plant being besprinkled with dots, which give it a scurfy appearance.

(1) floridanum, Mx. Hoffmannia aphylla, W. Bernhardia dichotoma, Ph. Lycopodium nudum, L. (2) agrophylla, Ph.

(3) elliptica, Ph. arenaria, N.

mucronate, very entire: spikes axillary, dense-flowered: divisions of the calyx and bracts ovate, cuspidate, distinctly punctate.

onobrychis, N. (1) (W.) stem smooth: leaves ternate; leafets lance-ovate, sub-pubescent: racemes axillary, long-peduncled; flowers one-sided: legume sub-ovate, muricate, smooth. 3—5 f. K.

virgata, N. (b. 2f.) stem virgate, sub-pubescent: leaves simple, distant, lance-linear: spikes axillary, shorter than the leaves. 2 f.

melilotoides, Mx. (p. J. 2f?) sub-pebescent: leaves ternate; leafets lance-oblong: spikes oblong: bracts broad-cordate, long-acuminate: legumes round, nerved, very rugose. 1—2 f.

eglandulosa, (2) (W. p. J. 2f.) pubescent, without glands: leaves ternate, lance-oblong: spikes oblong: bracts broad-lanceolate, long acuminate, and with the calyx villose.

multijuga, E. (p. J.) stem branching: leaves pinnate; leafets numerous, (9—10 pairs,) lance-oblong, obtuse, pubescent: spikes oblong: bracts small, membranaceous, glandless. 1—2 f.

jamesii, T. (W.) leaves ternate; leafets obovate, very obtuse, wedge-form at the base, very entire, both sides silky: petioles pubescent: spikes capitate: bracts oblong, acuminate: calyx very hirsute: teeth subulate, nearly equal. 4 i.

5—1. PSYCHO'TRIA. 30. 57.

Southern.

lanceolata, N, (♄.) branches and leaves reddish-hairy beneath: leaves lanceolate, acuminate at both ends: stipules clasping, roundish, caducous: corymb terminal, 3-forked at the base. Florida.

4—1. PTE'LEA. 43. 94.

trifoliata, (W. g-w. J. ♄.) leaves ternate; flowers panicled, dioecious. Var. *pentaphylla*, leaves quinate. Var. *pubescens*, leaves pubescent. 6—8 f. *S.*

Southern.

monophylla, Lk. ( ) leaves simple, lance-ovate, sub-sessile: fruit 3-winged.

21—1. PTE'RIS. 55. 5.

aqualina, (common brake. O. Ju. 2f.) frond pinnate, 3-parted: barren branches doubly pinnate. with leafets lance-linear, obtuse-pinnatifid, toothed; fertile branches pinnate, with leafets pinnatifid; divisions acutish, all ciliate. *S.*

atropurpurea, (rock break. O. Ju. 2f.) frond pinnate: lower leafets lanceolate, obtuse, ternate or pinnate; at the base obtusely truncate or sub-cordate. Var. *venosa*, leafets veined beneath: stipe angled. Var. *punctata*, leafets punctate beneath: stipe terete. In ripening, the

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Psychotria. Gr. *psuchos*, cool, *otruno*, to excite, in allusion to its properties.

Ptelea. Gr. *ptelea*, elm, the fruit of this genus having a resemblance to that of the elm.

Pteris. Gr. *pteron*, or *pterux*, a wing, from the appearance of the frond resembling a wing.

(1) hedysaroides, M? (2) Melilotus psoraloides, N.

marginal involucre unrolls, and the capsules on opposite sides meet; so that it exhibits the generic character of the Acrostichum. Stipe dark-purple. 3—10 i. *S.*

gracilis, Mx. (Ju. 2[.) frond pinnate: leafets lanceolate, obtuse, alternate, sessile; lower ones pinnatifid; fertile ones entire; barren ones crenate, round-obtuse. 4 i. Canada.

caudata, Jn. (Au. 2[.) frond 3-parted pinnate: barren branches doubly pinnate: leafets linear, elongated, obtuse, entire; lower ones doubly pinnatifid: fertile branches pinnate: leafets remotish below, at the base pinnatifid-toothed. *S.* P.

Southern.

pedata, W. (Ju. 2[.) frond deeply 5-lobed-palmate; lobes pinnatifid; divisions lance-linear, acute. 6 i.

17—2. PTEROCAU'LON. 49. 55.

Southern.

pycnostachya, Mx. (1) (black root. w. Au. 2[.) stem winged: leaves lanceolate, tomentose beneath, nearly entire: spike cylindric, dense.

10—1. PTEROSPO'RA. 18. 51.

andromeda, N. (2) (albany beech-drops. r-y. Ju. ☉.) scape purple, very tall, bearing a many-flowered raceme: flowers lateral and terminal, nodding, bracted: peduncles filiform, longer than the flowers: lanceolate scales below, none above. 1—3 f. T. Near Kingston, U. C.

5—1. PULMONA'RIA. 41. 43.

virginica, (W. b. M. 2[.) smooth: stem erect: calyx much shorter than the tube of the corol: radical leaves oblong-obovate, obtuse; cauline ones narrower. *S.* P. T. C.

paniculata, A. (b-w. J.) sub-hirsute, erect; leaves ovate-oblong, acuminate: flowers panicled: calyx short 5-parted. Hudson's Bay.

alpina, T. & J. (W. b. 2[.) nearly glabrous: stem simple, assurgent: leaves spatulate-ovate; lower ones acute; upper ones acuminate, subpilose above, minutely ciliate on the margin: flowers in terminal fascicles, sub-sessile: divisions of the calyx oblong, obtusish, ciliate, about half the length of the corol. 6 i.

oblongifolia, N. (b. 2[.) sub-glabrous: stem simple, erect; leaves lance-oblong, obtusish; upper ones acute: flowers tubular-campanulate,

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Pterocaulon. Gr. *pteron*, a wing, and *kaulos*, a stem.

Pterospora. Gr. *pteron*, a wing, and *spora*, a seed.

Pulmonaria. Lat. *pulmones*, the lungs, from its supposed medical qualities.

(1) Conyza, Mx. Gnaphalium, undulatum, Wr.

(2) Monotropa proce a, 2d ed. This plant was discovered near Albany, in the summer of 1817, by Dr. Edwin James. He considered it a Monotropa, and I published it as described by Dr. Torrey, in the second edition of this work, under the name M. *procera*. Certainly the Monotropa, Hypopithys and Pterospora, ought to be united in one genus, with some extension of the generic description.

panicled, pedicelled: calyx abbreviated; divisions linear, acute, ciliate. R.

Exotic.

officinalis, (lung-wort. b. M. 2f.) radical leaves heart-ovate, hirsute: flowers racemed.

Southern.

lanceolata, Ph. (1) (W. b. w. 2f.) glabrous, erect: radical leaves very long-petioled, lanceolate: cauline ones linear-oblong: flowers subpanicled: calyx short.

ciliata, J. (W. b.) glabrous, erect? leaves lance-ovate, attenuate at each end, ciliate on the margin; flowers fascicle-panicled, pedicelled: corol tubular-bellform: calyx short, 5-parted; divisions ovate, obtuse. 1 f.

Pulmonaria, LITHOSPERMUM.

11—1. PU'NICA. 36. 92.

Exotic.

grana'tum, (pomegranate. ♄.) leaves lanceolate: stem woody.

11—1. PURSH'IA. 35. 92.

tridentata, Dc. (2) (♄.) branches erect: branchlets numerous short: leaves in fascicles, simple, 3-toothed, white beneath: flowers terminal, or solitary. R.

Purshia, ONOSMODIUM.

13—1. PYCNAN'THEMUM. 42. 42.

1. *Stamens exsert.*

inca'num, (3) (wild basil, mountain mint. O. w. r. Ju. 2f.) leaves oblong-ovate, acute, sub-serrate, white downy: flowers in compound heads, lateral ones peduncled: bracts setaceous. 1—5 f. S.

aristatum, Mx. (4) (W. w. Au. 2f.) leaves lance-ovate, sub-serrate, short-petioled, somewhat hoary; head sessile, terminal: bracts awned. 1—3 f. S. .T. B. C. N.

linifolium, Ph. (5) (virginian thyme. W. w. Ju. 2f.) glabrous: leaves linear, 3-nerved, entire, punctate, acute: heads terminal, sub-corymbed: bracts short-awned. 1—2 f. S. P. C. N. T.

Punica. Lat. *punicus*, Carthaginian, because it first came from the north of Africa.

Pursh'ia. In honor of Frederick Pursh who wrote the N. American Flora.

Pycnanthemum. Gr. *puknos*, dense, and *anthos*, flower, to express the dense inflorescence.

(1) marginata, N. (2) Tigarea tridentata, Ph. (3) Clinopodium, L. (4) Nepeta virginica, L. (5) virginicum, P. Brachystemum virginicum, Mx. linifolium, W. Thymus virginicus, L, Origanum flexuosum, W.

virginicum, (1) (narrow-leaf virginian thyme. O. w. J. 2[.) pubescent: leaves sessile, lance-linear, entire, punctate: heads terminal, corymbed: bracts acuminate. 12—18 i. *S.* T. P.

2: Stament inclosed.

muticum, Mx. (2) (W. w. Ju. 2[.) leaves lance-ovate, sub-dentate, ribbed, subglabrous: heads terminal: bracts lanceolate, acutish. 18—24 i. *S.* P. Y. C.

verticillatum, Mx. (2) (A. w. J. ♄.) leaves lance-ovate, entire or remotely sub-denticulate, pubescent: whorls sessile, compact; bracts acuminate. 18—24 i. *S.* C.

Southern.

montanum, Mx. (A. p. 2[.) leaves lance-oval, serrate, sub-sessile, heads sessile: bracts ciliate, acuminate: calyx erect with short teeth. 1 f.

monardellum, Mx. (A. w-r. Ju. 2[.) pubescent: leaves abruptly petioled, sub-cordate-oval, serrate: bracts large, colored, ciliate: calyx bearded at the summit. 2—3 f.

nudum, N. (A.) very glabrous: stem simple: leaves oblong-ovate, entire, sessile: heads pedicelled, few-flowered, naked: stamens exsert. 2 f.

pilosum, N. (W. J.) leaves sessile, lanceolate, tomentose beneath, obsoletely toothed: heads large, terminal: lance-ovate bracts and calyx, hoary-tomentose. 18—24 i.

loomisii, N. (r-w. 2[.) flowers cymed, many-bracted: bracts lanceolate, acuminate, hoary: leaves petioled ovate, sub-serrate, acute, short, glabrous above: teeth of the calyx abbreviated, acuminate, apex pilose: flowers maculate.

setosum, N. (3) (2[.) slightly pubescent: leaves ovate, acute, subserrate, scarcely petioled; branches fastigiate; little heads terminal, many bracted: bracts subulate-setaceous: teeth of the calyx acuminate.

17—2. PYRE'THRUM. 49. 55.

inodorum, H. ( ) stem diffuse, branching: leaves pinnate, glabrous; leafets linear-filiform, 2—3-parted: little crown of the achenium very entire. A. Lake Huron.

Pyrethrum, CHRYSANTHEMUM.

10—1. PY'ROLA. 18. 51.

rotundifolia, Shin-leaf, pear-leaf wintergreen. O. w. J. 2[.) style declined: leaves rounded or broad-oval, obsoletely serrulate, sub-coriaceous, shining: petiole about as long as the lamina: scape many flowered; flowers bracted. 6—12 i. *S.*

elliptica, N. (white winter-green. W. w. J. 2[.) style declined: leaves membranaceous, oblong-oval or ovate, plaited-serrate, abruptly acute:

Pyrethrum. Gr. *purethron*, *pur* (fine); from its burning quality.

Pyrola. Lat. *pyrus*, a pear, from its pear shaped leaf.

(1) Brachystemum, Mx. Origanum clinopodioides, Wr. (2) Brachystemum, Mx. lanceolatum, Ph. (3) aristatum, Ph.

lamina much longer than the petiole: scape naked, or having a single scale: bracts subulate: calyx 5-toothed. 6—10 i. P. F. N.

asarifolia, Mx. (1) (g-w. Ju. 2ſ.) style declined, leaves sub-reniform, generally emarginate, coriaceous: lamina shorter than the petiole: scape sometimes convolute. 6—8 i. T. P. B. N. Canada.

dentata, S. (W.) style declined: leaves obovate or oval, veined, remotely and obtusely toothed: scape straight, obscurely angular, nearly naked. 6 i.

picta, S. (W.) style declined: leaves ovate, sub-serrate, rather fleshy, with large branching veins and whitish spots; flowers secund?

aphylla, S. (W.) style declined: scape and stalk leafless, scaly: scales lanceolate, membranaceous: scape angular. P. W. Plainfield, Mass.

minor, (W. w-r. Ju. 2ſ.) style straight: leaves round-oval, serrulate: scape sub-naked: spike with flowers reversed. C. D. N.

secunda, (one-sided shin-leaf. O. g-w. Ju. 2ſ.) style straight: leaves round-ovate, acute, serrate: raceme with 1-sided flowers. 6—8 i.

uniflora, (J. 2ſ.) style straight: leaves sub-orbicular, crenate-serrate: scape 1-flowered. T. B. N. D. Canada.

occidentalis, Don. ( ) leaves sub-rotund, membranaceous, obsoletely denticulate, twice as long as the simple petiole: raceme few-flowered: divisions of the calyx oblong, obtuse: stigma with a 5-lobed disk. A.

bracteata, H. ( ) leaves broad-ovate, acute, very entire or very smoothly crenate, coriaceous, acute, shining: scape somewhat two-scaled: raceme bracted: bracts lanceolate, acuminate longer than the flower: segments of the calyx attenuate longer than the lower bud. A.

17—1. PYRROCO'MA. 49. 51.

carthamoides, Doug. ( ) stem simple, erect, striate, pubescent: leaves lanceolate, acute, punctate; lower ones long-petioled; upper ones sessile: flowers terminal: florets numerous small. ½ f. A.

Pyrola, CHIMAPHILA.

11—5. PY'RUS. 36. 92.

coronaria, (2) (crab apple. O. w-r. M. ♄.) leaves broad-oval, at the base rounded, sub-angled or sub-lobed, serrated, smooth: peduncles corymbed. Flowers sweet scented. *S.*

angustifolia, A. (M. ♄.) leaves lance-oblong, at the base acute: slightly crenate-toothed, shining: peduncles corymbed. Fruit very small. *S.* P. Y. Florida.

rivularis, Doug. ( ) leaves ovate entire, somewhat 3-lobed-angled, sub-acuminate, acutely serrate, pubescent beneath: corymb terminal, simple: calyx hirsute very densely tomentose within: styles (3—4) attached at the base. R. A.

Pyrrocoma. Gr. *purros*, red, or reddish-yellow, *kome*, hairs, from the color of the egret.

Pyrus. Lat. *pyrus*, pear, from the Celtic *peren*.

(1) chloranthæ, N. (2) Malus, Mx.

Exotic.

communis, (pear. w-r. M. ♄.) leaves ovate, serrate, (rarely entire:) peduncles corymbed. Var. *pyraster*, (dwarf) fruit very small and acid. Var. *falerna*, (burgamot) fruit orbicular, apple-form. Var. *pompeiana*, (good christian.) Var. *favonia*, (musk-pear.) Var. *liquescens*, (butter-pear.) Var. *refusans*, (russet-pear. Var. *pyramidalis*, (leg-pear.) These five last varieties are distinguished more by their flavor than by any external marks.

malus, (apple. w-r. M. ♄.) flowers in sessile umbels: leaves ovate-oblong, acuminate, serrate, glabrous: claws of the petals shorter than the calyx: styles glabrous. Var. *sylvestris*, (wild apple) leaves ovate, serrate: fruit small, austere. Var. *prasomila*, (pippin.) Var. *castanea*, (chesnut-apple.) Var. *apiosa*, (ape-apple) fruit small, round, red, pleasant-tasted. Var. *cavillae*, (cornered apple) leaves broad-ovate, downy beneath; fruit angled.

cydonia, (quince. w. J. ♄.) flowers solitary: fruit tomentose: leaves ovate, entire. Var. *lusitanica*, leaves very broad.

prunifolia, (siberian crab. w.r. M. ♄.) umbels sessile: pedicels pubescent: styles woolly at the base: leaves ovate, acuminate. 12—15 f.

Remark. The varieties into which the above species have been extended by culture, are very numerous. I have given those only which are set down by Persoon as the most distinct.

Pyrus, ARONIA.

Pyxidanthera, DIAPENSIA.

Q.

19—12. QUER'CUS. 50. 99.

1. *Fruit sub-sessile: leaves mucronate, with a bristle-form awn, entire.*

Fructification biennial.

phellos, (willow oak. W. M. ♄.) leaves lance-linear, tapering to both ends, entire, glabrous, mucronate: calyx saucer-form: acorn roundish. Var. *humilis*, low and straggling: leaves shorter. 30—60 f. *S.* P. Y.

imbricaria, Mx. (shingle oak, laurel oak. W. M. ♄.) leaves oblong, acute at both ends, mucronate, entire, shining, pubescent beneath: calyx saucer-form, scales broad-ovate: acorn sub-globose. 40—50 f. *S.* P.

2. *Fruit sub-sessile: leaves mucronate, with a bristle-form awn, toothed or lobed.* Fructification biennial.

heterophylla, Mx. (burrier's oak. M. ♄.) leaves long-petioled, lance-ovate or oblong, entire or unequally coarse-toothed: calyx hemispheric, acorn sub-globose. Pursh says there is but one individual of this species known in the world, which is now growing on the Bartram plantation near Philadelphia.

Quercus. Celtic *quer*, excellent, and *cuez*, tree, both on account of its beauty and because it bore the holy misletoe.

agrifolia, W. (W. ♄.) leaves roundish-ovate, sub-cordate, glabrous on both sides, remotely spinose-toothed: calyx hemispheric, scales lax: acorn ovate-acute.

triloba, W. (1) (downy black oak. W. M. ♄.) leaves wedge-oblong, acute at the base, sub-3-lobed at the apex: lobes equal in breadth, mucronate; middle lobe longest, downy beneath: calyx saucer-form: acorn compressed, globose. 20—40 f. *S.* P. Y.

aquatica, W. (2) (water oak. M. ♄.) leaves wedge-ovate, glabrous, very entire: apex obscurely 3-lobed, with the intermediate lobe longest: calyx hemispheric: acorn sub-globose. Leaves very variable. 30—40 f. *S.* P. Y.

nigra, (3) (barren oak, black jack. W. M. ♄.) leaves coriaceous, wedge-form, sub-cordate at the base, spread and retuse-3-lobed at the apex: in the young state it is mucroate, glabrous above, mealy-rust beneath: calyx turbinate: scales obtuse, scarious: acorn short-ovate. Small. *S.* P. New Jersey. Florida.

tinctoria, Bart. (4) (quercitron oak, black oak. O. M. ♄.) leaves obovate, oblong, a little sinuate, pubescent beneath; lobes oblong, obtuse, obtusely denticulate, setaceous-mucronate: calyx saucer-form: acorn depressed-globose. 60—70 f. *S.*

discolor, A. (5) (false red oak. O. M. ♄.) leaves oblong, sinuate-pinnatifid, pubescent beneath, and on both sides when young: lobes oblong, toothed, setaceous-mucronate: calyx turbinate: acorn ovate. 60—70 f. *S.*

coccin'ea, Wm. (scarlet oak, ink-ball oak. O. M. ♄. leaves long-petioled, oblong, deeply sinuate, glabrous: lobes divaricate, toothed, acute, setaceous-mucronate: calyx turbinate, marked with scales: acorn short ovate. This, the last species, and the *rubra*, are usually called red-oak by farmers; and it requires some attention for the botanist to distinguish them. The leaves of this species become reddish, and even scarlet in autumn. Produces brownish-purple nut-galls. 70—80 f. *S.*

ambigua, Mx. (gray oak. M. ♄.) leaves sinuate, glabrous, acute at the base: lobes sub-acute; calyx nearly saucer-form: acorn turgid, ovate. Intermediate between the preceding and the following one, and probably only a hybrid. Ph. N.

rubra, (red oak. O. M. ♄.) leaves long-petioled, oblong, glabrous, obtusely sinuate: lobes acutish, toothed, setaceous-mucronate: calyx saucer-form, smoothish: acorn sub-ovate, turgid. 70—80 f. *S.*

catesbaei, Mx. (barren scrub oak. M. ♄.) leaves short-petioled, wedge-form at the base, oblong, coriaceous, glabrous, deeply sinuate; lobes divaricate-acute, mucronate: calyx turbinate, large, scales obtuse; marginal ones inflexed: acorn ovate. 15—30 f. *S.*

falcata, Mx. (6) (spanish oak. W. M. ♄.) leaves long-petioled at the base, obtuse, downy beneath, 3-lobed or sinuate: lobes sub-falcate, setaceous-mucronate, terminal one elongated: calyx bowl-form: acorn globose. 70—80 f. *S.* P. Y. Florida.

palustris, W. (pin oak. O. M. ♄.) leaves long-petioled, oblong, deeply sinuate, glabrous; axils of the veins villose-beneath; lobes divaricate,

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(1) cuneata, Wm. (2) nigra, L. not W. uliginosa, Wm. (3) ferruginea, Mx. (4) tinctoria-angulosa, Mx. (5) tinctoria-sinuosa, Mx. (6) elongata, W.

toothed, acute, setaceous-mucronate: calyx saucer-form, smooth: acorn sub-globose. Generally grows in wet places. The small limbs along the body of the tree die as the tree advances, which gives it the appearance of having pins or treenails driven into it. 40—60 f. *S.*

ilicifolia, W. (1) shrub-oak. O. M. ♄.) leaves long-petioled, wedge-ob-ovate, 4 or 5-lobed, margin entire, whitish-downy beneath: lobes setaceous-mucronate: calyx sub-turbinate: acorn sub-globose, striate; nucleus yellow. 2—9 f. *S.*

3. *Fruit peduncled: leaves without awns, lobed.* Fructification annual.

obtusiloba, Mx. (2) (iron oak, post oak. W. M. ♄.) leaves oblong, sinuate, wedge-form at the base, pubescent beneath: lobes obtuse, upper one dilated, 2-lobed, (often the lobes are so arranged in the young plants as to form a cross-form or stellate leaf:) calyx hemispheric: acorn oval. 30—50 f. *S.* T. C. P. F. D.

macrocarpa, Mx. (over-cup oak. W. M. ♄.) leaves downy beneath, deeply lyrate-sinuate-lobed: lobes obtuse repand, upper ones dilated: calyx bowl-form, upper scales setose: acorn turgid, ovate, large. A large tree. *S.* P.

olivæformis, Mx. (mossy-cup oak. W. M. ♄.) leaves oblong, glabrous, glaucous beneath, deeply and unequally sinuate pinnatifid: calyx deeply bowl-form, fringed above: acorn oval-ovate. Large tree. *S.* P. Y.

alba, (white oak. O. M. ♄.) leaves oblong, sinuate-pinnatifid, pubescent beneath; lobes obtuse, entire, narrowed at their bases, particularly on full-grown trees: fruit peduncled: calyx somewhat bowl-form, tubercled flattened at the base: acorn ovate. The most useful timber-tree in America. 70—80 f. *S.*

4. *Fruit peduncled: leaves without awns, toothed, not lobed.* Fructification annual.

prinos, W. (3) (swamp oak, swamp chesnut oak. M. ♄.) leaves long-petioled, obovate, acute, pubescent beneath, coarsely toothed; teeth about equal, spread, callous at the apex: calyx bowl-form, tapering at the base: acorn ovate, large, sweet tasted. Large tree. 70—80 f. *S.* P.

chin'quapin, Mx. (4) (dwarf chesnut oak, chinquapin. O. M. ♄.) leaves short-petioled, obovate, at the base acute, coarsely toothed, glaucous beneath: teeth nearly equal, spread callous at the apex: calyx hemispherical: acorn ovate. A low shrub. 3—4 f. *S.* P. N.

montana, W. (5) (rock oak, chesnut oak, mountain oak. W. A. M. ♄.) leaves moderately petioled, broad obovate, oblong, white-downy beneath, shining above; coarsely toothed, at the base obtuse, oblique; teeth sub-equal, very obtuse, short: fruit in pairs, short-peduncled: calyx hemispheric: scales rugose, tubercled: acorn ovate. 30—40 f. *S.* P. C. T. F. N.

castanea, W. (6) (yellow oak. W. M. ♃.) leaves long petioled, lance-oblong, obtuse at the base, acuminate, downy beneath, coarsely toothed;

(1) banisteri, Mx. (2) stellata, W. (3) prinus-palustris, Mx.
(4) prinoides W. (5) prinus monticola, Mx. (6) prinus acuminata, Mx.

teeth sub-equal, spread, acute, callous at the apex: calyx hemispheric: acorn globular-ovate. Large tree. The bark is used for dyeing yellow. 60—70 f. *S.* P. T. Catskill.

bicolor, (1) (swamp white oak. M. ♄.) leaves short-petioled, oblong-obovate, white-downy beneath, coarsely toothed, entire at the base: teeth unequal, spread, acutish, callous at the apex: fruit in pairs, long-peduncled: the peduncle terminating in a bristle: calyx hemispheric: acorn oblong-ovate. Var. *mollis*, N. leaves toothed, sub-ferruginous and soft-pubescent beneath. 60—70 f. *S.* T. B. P. C. F. N.

Southern.

maritima, W. (L. Ap. ♄.) leaves perennial, coriaceous, lanceolate, entire, glabrous, tapering at the base, acute at the apex, mucronate: calyx peduncled: acorn oval mucronate. 4—10 f.

pu'mila, Wr. (2) (W. L. Ap. ♄.) leaves lance-oblong, sub-undulate, obtuse at the base, acute, mucronate at the apex, glabrous above, tomentose beneath: acorn sub-globose. 2 f.

myrtifolia, W. (♄.) leaves perennial, coriaceous, small, oblong-ovate, unawned, acute at each end, glabrous, shining and reticulate above, revolute at the margin.

virens, W. (3) (live oak. O. M. ♄.) leaves perennial, coriaceous, oblong-oval, entire, revolute at the margin, at the base obtuse, at the apex acute, awnless, stellate-pubescent beneath: fruit pedicelled: calyx turbinate: scales abbreviated: acorn oblong. 40—60 f. Florida.

cinerea, Mx. (W. Ap. ♄.) leaves perennial, coriaceous, lance-oblong, entire, sub-revolute at the margin, mucronate at the summit, stellate-tomentose beneath: fruit sessile: acorn sub-globose. 20 f.

laurifolia, Mx. (Ap. ♄.) leaves nearly perennial, sessile, lance-oblong, sub-acute, tapering at the base, entire, glabrous on both sides: acorn sub-ovate. Var. *obtusa*, leaves obtuse at the apex. 40—50 f.

hemispherica, W. (M. ♄.) leaves perennial, lance-oblong, undivided, 3-lobed and sinuate; lobes mucronate: glabrous on both sides. Probably a variety of the aquatica. Ph.

nana, W. (M. ♄.) leaves wedge-form, glabrous, 3-lobed at the summit, sub-sinuate at the base; lobes divaricate, mucronate; middle one largest; axils of the veins beneath pubescent: acorn ovate, sub-globose.

lyrata, Wr. (Ap. ♄.) leaves oblong, sinuate, glabrous; lobes oblong, sub-acute; upper ones broad, angled: calyx as large as the globose nut; acorn nearly covered. 60—70 f.

michauxii, N. (Ap. ♄.) leaves petioled, obovate, obtuse at the base, unequally toothed, sinuate, tomentose beneath: fruit generally in pairs: acorn very large, ovate. 50—60 f.

undulata, T. & J. (W. ♄.) fruticose, very branching: leaves short-petioled, oblong, obtusish, coriaceous, repand-toothed, undulate, equal at the base, pulverulent-tomentose beneath, shining above: fruit solitary or in pairs, sessile, depressed hemispheric: calyx scales appressed. A small straggling shrub.

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(1) prinus tomentosa and discolor, Mx. (2) sericea, W. (3) sempervirens, Wr.

5—1. QUER'IA. 22. 30.

canadensis, (1) (fork chickweed. O. w. Ju. 2ſ.) stem dichotomous, very branching, spread: leaves oval, lanceolate, glabrous, erect. About 6 or 8 inches high, very slender and branching. Flowers very small, stamens from 2 to 5. Var. *capillucea*, branches capillary: leaves obtusish: flowers mostly longer than the stipules.

Southern.

dichotoma, W. (2) (O. S. 2ſ.) cespitose, procumbent, glabrous: leaves acerose, linear, acute, with 2 grooves on each side: cyme dichotomous: stipules 2-cleft: bracts shorter than the flowers: divisions of the calyx minute-mucronate.

herniarioides, Mx. (3) (Ju. 2ſ.) prostrate, clustered, all over pubescent: leaves oblong-oval, ciliate, mucronate: divisions of the calyx subulate, spreading and setaceous at the point.

argyrocoma, M. (3) (W. J. 2ſ.) cespitose, procumbent: stem pubescent: leaves linear, very acute, sub-pilose: the little heads fascicled, terminal, silvery: calyx pilose, with the tips bearded and long-acuminate.

sessiliflora, N. (4) (W. Ju.) cespitose, diffusely branched: leaves glabrous, very short, linear reflected, acute: stipules subulate, irregularly lacerate, nearly equal to the leaves: flowers terminal, sessile: outer points of the calyx capillary, attenuated.

R.

12—12. RANUNCU'LUS. 26. 61.

1. *Leaves simple.*

lingualis, W. (great spear-wort. y. Ju. 2ſ.) hairs close-pressed: leaves lanceolate, sub-denticulate, acuminate, sub-sessile: stem erect, many-flowered. *S.* P. T.

flammulus, (spear-wort. W. y. Ju. 2ſ.) glabrous stem declined: leaves narrow lanceolate, acute, entire and denticulate, lower ones petioled. peduncles terminal, axillary, 1-flowered: calyx sub-reflexed. Flowers small. Damp. 1—3 f. *S.* T. Y. C. P. B. H. F. N.

pusillus, Ph. (5) (W. y. Ju. 2ſ.) glabrous: leaves petioled: lower ones ovate, toothed: upper ones lance-linear, toothed at the apex, the very uppermost ones linear, bract-like: peduncles alternate, solitary, 1-flowered. 6—12 i. *S.* Y. N. D. Peekskill. New Orleans.

filiformis, Mx. (W. w-y. J. 2ſ.) glabrous, small: stem filiform, creeping, geniculate, with the joints 1-flowered: flowers axillary, peduncled: leaves linear-subulate, obtuse. Var. *ovalis*, Bw. leaves oval and lanceolate: petals 5—8. P. V. T. B. C. N. D.

cymbalarius, (w-y. J. 2ſ.) glabrous, very small, filiform, creeping, root-

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Queria. In honor of Don Joseph Quer, an assiduous Spanish botanist.
Ranunculus. Diminutive of *rana*, a frog, from some of the species growing in fenny places.

(1) Anychia dichotoma, Mx. (2) Illecebrum, W. Paronychia, N. (3) Anychia, Mx. Paronichia, Ju. (4) Paronychia, N. (5) flammula, Wr.

ing at the joints: leaves heart-reniform, crenate-dentate: radical peduncles solitary, mostly 2-flowered: petals spatulate: fruit oblong. N. B. R. Hudson's Bay. Onondaga.

glaberrimus, Hk. (W.) leaves all petioled; radical ones roundish, entire or coarsely toothed; cauline ones somewhat wedge-form, 3-cleft: calyx spreading, half as long as the petals: fruit globose. Rocky Mts. in the highest parts.

2. *Leaves divided.*

abortivus, (1) (O. y. M. 2[.) glabrous: stem striate, naked below: radical leaves heart-reniform, obtusely crenate; cauline ones petioled, ternate, angled; upper ones sessile: branches about 3-flowered. Var. *sessilis*, (2) has sessile, cauline leaves and glabrous shining seeds. 9—15 i. *S.*

sceleratus, (celery crowfoot. O. y. J. 2[.) glabrous: lower leaves palmate; upper ones sessile, digitate: fruit oblong. Wet. 12—18 i. *S.*

auricomus, W. (y. M. 2[.) pubescent: radical leaves reniform, 3-parted, gash-crenate; cauline ones sessile, digitate, linear: stem many-flowered: calyx colored, spreading.

pygmae'us, Ph. (y. J. 2[.) small, glabrous: radical leaves sub-cordate-reniform, gash-toothed; cauline ones sessile, digitate, divisions linear, very entire: stem few-flowered: petals oblong, equal to the calyx. R. Labrador.

pennsylvanicus, (W. y. Ju. 2[.) stem pilose, erect, branching: leaves ternate, 3-cleft, gashed, hairy beneath: peduncles terete: calyx reflexed: petals about equalling the calyx: styles of the fruit straight. 1—2 f. *S.* C. Y. P. N. Canada.

fascicularis, M. (O. y. M. 2[.) pubescent: upper leaves sub-linear; radical ones ternate or sub-pinnate; leafets 3-lobed, the terminal one deeply 3-cleft: calyx spreading, hairy underneath: petals longer than the calyx: root fascicled. 6—10 i. *S.* Is this distinct from the *repens?*

bulbosus, (W. y. M. 2[.) very hirsute: leaves ternate, 3-cleft: gashed and toothed: stem erect, many-flowered: peduncles sulcate; calyx reflexed: root bulbous: seeds smooth. 1—2 f. T. P. Y. B. C. N. Canada. Peekskill.

hirsutus, C. (3) (pale butter cup. y. Ju. 2[) hirsute: leaves ternate: stem erect, many-flowered: peduncles sulcate: calyx reflexed, acuminate: fruit globose: seeds tubercled: root fibrous. Damp. W. T. P. V. Peekskill.

rep'ens, (W. y. M. 2[.) sub-pubescent: leaves ternate; leafets wedge-form, gash-toothed, 3-lobed: main stem prostrate; flowering ones erect: peduncles furrowed: calyx spreading. Damp. W. C. P. F. B. O. T. Y. N.

clintonii, L. C. Beck. (y. M. 2[.) leaves ternate, 3-cleft, hairy, hairs close-pressed; extreme upper leafets lanceolate: stem entirely prostrate, creeping, zigzag: petals obovate, sub-retuse: calyx caducous; seed compressed, margined: beak hooked. Flowers large, resembling those of the *repens*. In Oneida county, between Rome and Oriskany, near the Erie canal, patches of ground, several yards in extent,

(1) nitidus, Pt. (2) nitidus of Ph. but he says it may be a variety of the abortivus. (3) philonitis, W.

are often covered with this species. The flowers are rarely elevated more than 8 or 10 inches above the ground, though the stem creeps more than a yard from the root. (1)

acris, (crowfoot, butter cup. O. y. M. 2f.) hairs close-pressed: leaves 3-parted, many-cleft, upper ones linear: peduncles terete: calyx spreading. 1—2 f.

lanuginosus, W. (W. y. J. 2f.) hirsute: leaves 3-cleft, lobed, toothed, all over silky: peduncles elongated, terete, calyx spreading. *S.* P. C.

ovalis, R. (W.) pubescent: radical leaves cordate, truncate at the base, oval, entire, rarely split, crenate; cauline ones sub-sessile, digitate, lobes of all linear: stem erect, many-flowered: calyx pubescent, equalling the corol: fruit globose. R.

affinis, Hk. (W.) radical leaves mostly pedate-many-cleft, petioled; cauline ones sub-sessile, digitate; lobes of all linear: stem erect, 1—2-flowered (or more) with the calyx and germ mostly hairy: fruit oblong-cylindric, with the beak recurved. Canada. R. Hudson's Bay.

rhomboideus, Goldie. (W.) hirsute; radical leaves rhomboid, undivided, serrate; cauline one palmate; floral ones deeply divided: calyx spreading, hairy. N. W. Lakes. Canada.

marylandicus, Lk. (w-y. M. 2f.) pubescent: stem simple, sub-naked: radical leaves ternate; leafets 3-lobed: lobes acute, gashed: calyx reflexed. *S.* P.

recurvatus, Lk. (W. y-w. J. 2f.) pubescent: leaves 3 lobed, wedge-form at the base, gashed at the apex, acute: stem many-flowered: calyx and corol recurved: petals linear. Flowers small. 1—2 f. *S.* Y. W. T. R. C. N. O. F.

hispidus, Mx. (W. w-y. J. 2f) very hirsute, erect, somewhat branching: leaves ternate; leafets acutely lobed: stem few-flowered: calyx close-pressed. 1 f. *S.* P. O. Canada.

aquat'ilis, W. (2) (water crowfoot. w. Ju. 2f.) submersed leaves capillary; emersed ones peltate.

fluviat'ilis, W. (3) (river cowfoot, water butter cup. w-y. M. 2f.) stem submersed; leaves all capillary, dichotomous. The whole under water, excepting the fructification, while the corol is expanded. *S.* O. N. T.

multifid'us, Ph. (4) (W. y. 2f.) leaves 3-parted, many-cleft; divisions gashed, approximate: stem swimming; leafets of the calyx roundish, a little shorter than the petals. Upper Louisiana. *S.* B. R. O.

lacus'tris, Beck & Tracy. (5) (lake crowfoot. W. y M. 2f.) leaves all

(1) I discovered this plant in the summer of 1824, between Oriskany and Rome in Oneida county, where the Erie canal carried me through a new unexplored swamp region. Not being inclined to multiply specific names, and finding the diagnosis of Lamarck's *prostratus*, agreeing with it, I published it thus. I furnished Dr. L. C. Beck, and numerous other botanists, with specimens. Dr. Beck dedicated it to my very amiable friend, G. W. Clinton. I acquiesce; but with fears that it will prove to be the true *prostratus*, of Lamarck. See Beck's Botany of N. and Middle States, p. 9. I adopt my own description.

(2) heterophyllus, Roth. (3) pantothrix, Dc. (4) purshii, Hk.
(5) multifidus, Bw.

submersed, alternate, dichotomously divided into numerous capillary segments, with clasping membranaceous stipules: peduncles emerging, dichotomous, slightly furrowed: flowers terminal, large: calyx spreading, hairy, fleshy, caducous: petals 5 to 8, obovate, larger than the leaves of the calyx: nectary petal-like, cucullate tubular, nearly equalling the length of the filament: stem rooting at the lower joints, hollow, branched, glabrous, floating: root fibrous. 2—5 f C. T. F. D.

nivalis, W. (A.) leaves 5-lobed, very entire: cauline ones sessile, digitate: stem 1-flowered. R.

lapponicus, (A.) leaves 3-parted, lobed, obtuse: stem nearly naked, 1-flowered. R.

hyperbo'reus, Roth. (A.) leaves deeply 3-lobed; lobes oblong, divaricate; stem filiform, creeping. R.

brevicaulis, Hk. (W.) pubescent: radical leaves all heart-oval, entire; cauline ones crenate, many-cleft palmate: stem erect, many-flowered, with leaves much shorter: fruit globose—petals 6. N. W. Lakes.

cardiophyllus, Hk. (W.) hirsute: radical leaves round-cordate, deeply emarginate at the base, cauline ones many-cleft palmate, divisions linear, gash-crenate: calyx spreading, half as long as the corol: fruit oblong. Canada, N. W. Lakes.

eschscholtzii, Hk. (W.) leaves ciliate, radical ones petioled, partitions lobed: stem somewhat 2-flowered: calyx hirsute, shorter than the petals: fruit oblique, ovate, terminating in a short style. R.

pedatifidus, Hk. (W.) leaves fine-hairy; radical ones petioled, palmate or pedate, divided into entire linear lobes: scape nearly naked, exsert, 1-flowered: calyx spreading, sub-villose. Rocky Mts. and east.

arthorhyn'chus, Hk. (W.) close-pressed hairy: stem erect, slender ramose and sub-foliaceous above: radical leaves petioled, ternate: leafets linear-many-cleft, white callous at the apex: calyx reflexed: style stiffly straight, longer than the fruit. R.

natans, Dc. ( ) stem procumbent, floating: leaves heart reniform; lobes approximating, obsoletely crenate behind, and toothed before; divisions of the calyx oval: capsules with straight beaks. Creeping in swamps in Canada.

Southern.

hederaceus, (W. Ju. 2f.) stem creeping: leaves sub-reniform, about 3—5 lobed; lobes broad, entire, very obtuse: petals oblong, scarcely longer than the calyx: stamens 5—12: seeds glabrous. Probably introduced.

oblongifolius, E. (y. J. 2f.) leaves petioled, denticulate: lower ones oblong-oval: upper ones lance-linear: stem branching: petals a little longer than the calyx: seeds globose, unarmed, smooth. 1—2 f.

nitidus, M. (1) (y. Ap. 2f.) leaves 3-parted; segments unequally 3-cleft, lanceolate, gashed, toothed, glabrous: calyx reflexed: petals oval, twice as long as the calyx: seed with a hooked beak. Procumbent and erect. 1—2 f.

palmatus, E. (broad leaved crowfoot. y. M.) pilose; hairs close-pressed: leaves petioled; radical one palmate 3-parted: lobes dentate; up-

(1) not Wr.

per ones 8-cleft or entire: seeds margined, with the point straight. 12—18 i.

carolinianus, Dc. (y.) stem erect, branched, and with the petioles appressed-pubescent: leaves glabrous, 3-cleft or 5-lobed; lobes ovate, somewhat gashed, toothed: calyx glabrous, reflected, a little shorter than the petals.

trachyspermus, E. (y. M.) stem, petiole and leaves villous, with the hair spreading: leaves 3-cleft; lobes acutely gashed: peduncles short, opposite the leaves; seed tubercled, with the point hooked. 12—15 i.

muricatus, Dc. (y. Ap. ☉.) leaves glabrous, petioled, roundish, 3-lobed, coarsely toothed: stem erect or diffuse: peduncles opposite the leaves; calyx spreading: seeds rough-tubercled on both sides, with a straight acuminate point. 12—18 i.

tomentosus, Lk. (y. 2[.) stem ascending, 1—2-flowered, very villose, hairs spreading: leaves petioled, tomentose, 3-cleft; upper ones sessile, ovate, entire: calyx very villose, sub-reflexed.

septentrionalis, Lk. (y. 2[.) nearly glabrous: leaves membranaceous glabrous, ternate; leafets somewhat 3-lobed, gashed, acute: stem and petioles hirsute at the base: peduncles about 2-flowered: calyx reflexed.

echinatus, Vent. (y.) a little glabrous, simple: leaves simple roundish, 3-lobed: petals twice as long as the calyx.

collinus, Br. (1) (W. Ap.) leaves all radical, pubescent, petioled, 3—5-cleft: scape villose, 1-flowered, longer than the leaves: calyx persistent: petals oblong-ovate. 1—2 i.

14—2. RAPH'ANUS. 39. 63.

Exotic.

raphanistrum, (wild radish, charlock. y. Au.) leaves lyrate: siliques terete, jointed, smooth, 1-celled. Before the silique is mature, it is generally 2-celled and not jointed. Naturalized. B. Pittsfield.

sativus, (garden radish. w. J. ☉.) leaves lyrate: silique terete, torose, 2-celled. There are several varieties of this species—one has a fusiform, another a globose, another a black root.

19—12. RENSSELLAE'RIA. (2) 2. 7.

virginica, Beck. (O. g. J. 2[.) scapes several from the same root; leaves long-petioled, heart-hastate, lobes obtuse: spathe elongated, incurved. [See note, page 111.]

12—3. RESE'DA. 54. 64.

Exotic.

odorata. (mignonette. w-y. Ju. ☉.) leaves entire and 3-lobed: calyx equalling the corol.

Raphanus. Gr. *ra*, quickly, and *phainomai*, to appear, because it grows so quickly.

Rensselaeria. In honor of Gen. Stephen Van Rensselaer of Albany, N. Y.

Reseda. Lat. *resedo*, to appease, from its supposed qualities of allaying inflammation in external bruises.

(1) This is a description given by Prof. L. C. Beck, of a plant found by him in wet prairies in Illinois: but he does not decide whether it is the *collinus* or not. (2) Lecontia, Cooper. Arum, L.

luteo'la, (dyer's weed. y. Au. ☉.) leaves lanceolate, undulate, entire; a tooth on each side of the base: calyx 4-cleft: flowers spiked. Naturalized.

5—1. RHAM'NUS. (1) 43. 95.

franguloides, Mx. (2) (dwarf alder. O. w-g. M. ♄.) unarmed: leaves oval, acuminate, serrulate, pubescent at the nerves beneath: peduncles aggregate, 1-flowered: calyx acute: fruit turbinate. Berries black. Pursh calls this the franguloides, after Mx. and gives alnifolius to a species found up the Missouri. *S.*

catharticus, (buckthorn. ♄.) thorns terminal: flowers 4-cleft, dioecious: leaves ovate, serrate. First found in the Highlands by Dr. Barratt. N.

alnifolius, Ph. (3) (W. M. ♄.) unarmed: leaves oval, denticulate, short-acuminate, with a sinus at the base, slightly cordate, pubescent at the nerves beneath: peduncles twice 2-cleft: berries depressed-globose. Berries purple, edible. O. Hudson's Bay.

carolinianus, W. (w. J. ♄.) unarmed: leaves alternate, oval-oblong, sub-entire, ribbed, glabrous: umbels peduncled: flowers all fertile. Berry black, globose. 4—6 f.

lanceolatus, Ph. (W. ♄.) unarmed, shrubby: leaves lanceolate, serrulate, acute at each end, pubescent beneath. Berries black.

minutiflorus, Mx. (L. Oc. ♄.) unarmed: leaves nearly opposite, oval, serrulate: flowers very minute, divisions spiked, alternately sessile on the rachis: style 3-cleft: berry 3-seeded.

volubilis, ( ) branches glabrous, somewhat twining: leaves oval, mucronate, sub-undulate: flowers dioecious, 5-petalled: drupe oblong. Virginia. Carolina.

shortii, N. (M. ♄.) fruticose: somewhat glabrous: leaves oblong-ovate, acuminate, very slenderly serrulate: flowers tetrandrous, apetalous, aggregated in threes: stigmas 2: berries 2-seeded. K.

ferrugineus, N. ( ) leaves alternate, oblong-oval, acute, entire: younger ones and calyx ferruginous-tomentose; little umbels from the base of the petiole, sessile: flowers androgynous: stigmas trifid. Forida.

9—3. RHE'UM. 12. 28.

Exotic.

palmatum, (rhubarb. J. 2ℓ.) leaves palmate, acuminate. From China.

rhaponticum, (4) (pie rhubarb. W. J. 2ℓ.) leaves heart-ovate, obtuse and acute, smooth; veins sub-pilose beneath, the sinus at the base dilated: petioles furrowed on the upper side, rounded at the edge. Radical leaves very large. 2—4 f.

Rhamnus. Gr. *ramnos*, white thorn; or from Celtic *ram*, a head or tuft of branches.

Rheum. Gr. *reō*, to flow, from its purgative qualities, or from Rha, the Wolga, whence it was first brought.

(1) Berchemia. (2) alnifolius, W. (3) purshianus, Hk. (4) tartaricum of former editions, but Darlington has shewn that it is this species.

8—1. RHEX'IA. 17. 90.

virginica, (meadow beauty, deer-grass. W. p. Ju. 2ſ.) stem wing-angled: leaves sessile, lance-ovate, ciliate-serrate: corymbs dichotomous. 1—2 f. *S.* B. O. P. T. C. Y. H. F. N.

mariana, Mx. (W. w-r. Ju. 2ſ.) stem and leaves very hirsute: leaves sub-petioled, lance-oval, or lance-linear: calyx smoothish, tubular, long. Var. *purpurea*, leaves narrow-lanceolate or oblong: flowers deep purple. Var. *rubella*, leaves lance-oval or oblong: flowers pale, reddish. 1—2 f. *S.* Y. C.

ciliosa, Mx. (p. Ju. 2ſ.) stem sub-quadrangular, glabrous: leaves sub-petioled, lance-ovate, serrulate, ciliate, glabrous beneath, somewhat hispid above: flowers involucred. 18 i. *S*

Southern.

serrulata, N. (p. 2ſ.) stem sub-quadrangular, smooth: leaves small, sub-petioled, roundish-oval, acute, smooth on both sides, margin serrulate, base sub-ciliate: flowers peduncled, about in threes: calyx glandular-hirsute. 6—10 i.

glabella, Mx. (1) (p.) glabrous: stem terete: leaves lanceolate and ovate, 3-nerved, denticulate, slightly glaucous: calyx glutinous. 2—3 f.

stricta, Ph. (p. J. 2ſ.) stem straight, erect, winged, glabrous, bearded at the joints: leaves sessile, narrow-lanceolate, acuminate, 3-nerved, glabrous on both sides: corymbs dichotomous.

lutea, Wr. (y. Ju. ☉.) hirsute: leaves lance-linear, sometimes wedge-form at the base, 3-nerved: panicle pyramidal: anthers erect. 18 i.

linearifolia, Lk. (y.) stem terete, sub-pubescent: leaves alternate, linear, oblong, obtuse, sessile, pubescent on both sides: flowers sub-solitary.

angustifolia, E. (2) (w. Ju. 2ſ.) hirsute: leaves linear and lance-linear, somewhat clustered: root creeping?

13—2. RHINAN'THUS. 40. 36.

crista galli, W. (yellow rattle, yellow coxcomb. y. J. ☉.) upper lip of the corol vaulted: calyx smooth: leaves lanceolate, serrate. 1 f. B. Canada.

12—1. RHIZOPHO'RA. 17. 91.

mangle, (mangrove tree. ♄.) leaves acute, ovate, opposite-ribbed: peduncles axillary, fruit clavate-subulate. This tree roots by pendant appendages, and thus becomes greatly multiplied. Louisiana.

10—1. RHODODEN'DRON. 18. 50.

maximum, (wild rosebay. W. r. Ju. ♄.) leaves oblong, glabrous, paler

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Rhexia. Gr. *rexis*, a rupture, from its being used in curing wounds.

Rhinanthus. Gr. *rin*, nose, and *anthos*, flower; its ringent corol resembling the snout of an animal.

Rhizophora. Gr. *riza*, root, and *phĕro*, to carry, from its numerous roots.

Rhododendron. Gr. *rodon*, rose, and *dendron*, tree, because its flowers resemble roses.

(1) alifanus, Wr. (2) mariana, var. exalbida, Mx.

beneath: umbels terminal, dense: corols somewhat bell-form. Var. *roseum*, corol pale rose color, divisions roundish: leaves obtuse at the base. Var. *album*, corol smaller, white, divisions oblong: leaves acute at the base. Var. *purpureum*, corol purple, divisions oblong: leaves obtuse at the base, green on both sides. 4—20 f. *S.* P. Y. B. Banks of Delaware river.

lapponicum, (1) (Ap. Ju. ♄.) leaves elliptical, roughened with excavated punctures. 8—10 i.

albiflorum, H. (w. ♄.) erect: leaves deciduous, lance-oval, very entire, membranaceous, glabrous, fasciculate in the apex of the branches: peduncles fasciculate, lateral and terminal: calyx subfoliaceous, hispid: corol rotate-campanulate: stamens 10, erect, equal. 2—3 f. R.

kamschaticum, Pallas. ( ) low: procumbent: leaves persistent, obovate, ciliate, veiny, shining: calyx large, foliaceous: corol rotate; stamens longer. A.

Exotic.

ponticum, (rose bay. p. ♄.) leaves oblong, glabrous, both sides colored alike: corymbs terminal: corol bell wheel-form: petals lanceolate.

Southern.

punctatum, (r. Ju. ♄.) leaves lance-oval, glabrous, with resinous dots beneath: umbels terminal: corol funnel-form: capsules long. 4—6 f.

catawbiense, Mx. (r. J. ♄.) leaves short-oval, roundish-obtuse at each end: umbels terminal: segments of the calyx narrow-oblong: corol bell-form. 3—4 f.

Rhododendron, AZALEA.

10—1. RHO'DORA. 18. 50.

canadensis, (false honeysuckle, rhodora. b. r. M. ♄.) leaves oval, entire, glaucous-pubescent beneath: flowers in terminal umbels. 2 f. B. Y. C. N.

5—3. RHUS. 43. 94.

typhi'na, (stag's horn sumach. O. y. g. Ju. ♄.) branches and petioles very villose: leaves pinnate, many-paired; leafets lance-oblong, serrate, somewhat downy beneath. Var. *glabra*, leafets glabrous beneath. Berries red and very sour. 8—15 f. *S.*

glabra, (sleek sumach. O. g. r. Ju. ♄.) branches, petioles and leaves glabrous: leaves pinnate, many-paired; leafets lance-oblong, serrate, whitish beneath: fruit silky. Var. *elegans*, flowers dioecious. The leaves of both the species are used for tanning morocco leather. Berries red and sour. 6—12 f. *S.*

viridiflora, Lk. (y-g. Ju. ♄.) nearly glabrous: leaves pinnate in many pairs; leafets lance-oblong, serrate, sub-tomentose beneath: racemes erect. Probably a variety of the last. Ph.

Rhodora. Gr. *rodon*, a rose, from the resemblance of the flowers.

Rhus. Gr. *rous*, sumach, from Celtic *rhudd* or *rub*, red, from the color of the frurt.

(1) Azalea, L.

copallina, (wing-rib sumach, mountain sumach. W. y-g. Ju. ♄.) leaves pinnate, with the main petiole joint-winged; leafets lance-oval, entire: flowers dioecious. Berries red. 3—12 f. *S.* P. T. F. W. N.

vernix, (1) (poison sumach, poison elder. W. y-g. Ju. ♄.) very glabrous: leaves pinnate, many-paired; leafets oval, abruptly acuminate, entire: petioles not winged, panicle lax, dioecious: fruit glabrous. Berries green, at length whitish. Panicle few-flowered compared with the preceding species. Very poisonous. 8—15 f. *S.* F. P. N. C. B. Florida.

toxicodendron, (poison vine, poison ash. W. g. Ju. ♄.) rooting: leaves ternate; leafets oval, entire or sinuate-crenate: racemes on the branches and axillary, sessile, dioecious. Var. *radicans*, (2) (poison ivy, climbing-sumach) stem climbing and rooting: leafets broad, entire, or with scattered teeth. Var. *quercifolia*, (3) (poison oak) erect, low: leafets variously sinuate-lobed. Var. *microcarpa*, leafets oblong-oval, long-acuminate, sub-rhombic: fruit very small. The sap of this species is an excellent marking ink for linen. O. H. F. V. N. T. B. Florida.

aromatica, A. (W. y. M. ♄.) leaves trifoliate; leafets sessile, gash-crenate, pubescent beneath, middle one rhombic, lateral ones rhomb-ovate: flowers deposited in compact aments. Small shrub. *S.* P. W. O. H. N. Canada.

Exotic.

coti'nus, (false fringe-tree, aaron's beard. p-g. Ju. ♄) leaves simple, obovate and ovate: panicle racemes plumose. A small tree with very minute flowers supported on capillary, downy, or hairy peduncles. Indigenous to Siberia, Austria and Lombardy.

Southern.

pumila, Mx. (Ju. ♄.) low: branches and petioles pubescent: leafets oval, gash-toothed, tomentose beneath: fruit silky and downy. Poisonous. 1 f.

Rhynchosia, PHASEOLUS.

3—1. RHYNCHOS'PORA. (4) 3. 9.

alba, (W. Ju. 2f.) spike corymb-fascicled: culm triangular above: leaves setaceous: seed somewhat lenticular: bristles about 10. 12—18 i. *S.* B. C. O. N.

fusca, M. (5) ( ) culm 3-angled: leaves linear, carinate: fascicles of spikes alternate, peduncled: spikes ovate: glumes ovate, brown: seed ovate with an acute black tubercle. 2 f.

glomerata, (6) (false bog-rush. W. J. 2f.) spikes corymb-fascicled, remote, in pairs: culm obtusely triangular: leaves flat: seed obovate-

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Rhynchospora Gr. *rŭnchos*, the beak of a bird, and *spora*, seed, the permanent style forming a beak to the seed.

(1) venenata, Dc. (2) Made a distinct species by L., also by Dc. But this species is too variable to be divided hastily. (3) lobata, Dc.

(4) Schoenus, L. Mx. W. M. (5) alba, var. fusca, Ph. (6) capitellata, E.

wedge-form, very smooth, as long as the tubercle. 12—18 i. *S. P. C. H. N. K.*

capillacea, T. (Ju.) spikes 3—5, nearly terminal: culm 3-angled, somewhat leafy: leaves setaceous: seed stiped, sub-rugose.

sparsa, Mx. (Ju.) culm 3-angled, leafy: corymbs axillary and terminal, compound, lax: peduncles capillary: seed obovate, rugose much longer than the tubercle. 18 i. *S. P. Y.*

cymosa, W. (1) (Ju.) culm 3-angled, leafy: cymes terminal and axillary; terminal one largest: seed round-ovate, compressed, transversely rugose: tubercle conical. 12—18 i. *S.*

laxa, Vahl. (2) (W.) culm 3-angled: corymbs leafy, decompound, loose: spike subulate: seed obovate, pointed with the long persistent style. 3—6 f. *S.*

Southern.

variflora, Mx. (3) (M. 2f.) culm and leaves setaceous: panicle loose, few-flowered: seed obovate, rugose: bristles as long as the seed. 1 f.

inexpansa, Mx. (Ju.) culm obscurely 3-angled: panicles remote, pendulous: seed oblong rugose: bristles scabrous, twice as long as the seed. 2 f.

fascicularis, Mx. ( ) flowers fascicled, lateral and terminal: bracts short: spikelets oblong: scales mucronate: bristles twice as long as the smooth seed.

distans, Mx. (Ju.) culm 3-angled: fascicles of flowers distant: seed lenticular, slightly furrowed: bristles setaceous. 12—20 i.

ciliata, Vahl. (2f.) spike corymb-fascicled, terminal: bracts and leaves obtusish, ciliate.

plumosa, E. (Ju.) culm slender, 3-angled: leaves linear: flowers terminal, crowded: bracts awned: bristles feathered. 8—12 i.

punctata, E. ( ) fascicles lateral and terminal, approximate at the summit of the culm: seeds rugose, dotted. 1—2 f.

caduca, E. (Ju.) culm 3-angled: panicles axillary, erect: spikelets clustered, sessile: seed lenticular, rugose: bristles twice as long as the seed.

teres, Ea. (4) (Ju.) culm terete: leaves linear: panicles cyme-like: flowers crowded: seed glabrous: bristles setaceous. 1—3 f.

5—1. Ri'bes. 36. 85.

1. *Currant-like. Flowers racemed.*

flo'ridum, W. (5) (wild black currant. O. M. ♄.) unarmed: leaves punctate both sides: racemes pendant: calyx cylindric: bracts longer than the pedicels. 3—4 f. *S.*

albinervium, Mx. (W. A. g-y. M. ♄.) unarmed: leaves abbreviated, acutely lobed, smoothish: nerves white: racemes recurved: berries glabrous, red. D.

Ribes. An ancient Arabian name, of uncertain etymology.

(1) Scirpus polyphyllus, Ph. (2) longirostis, E. (3) micrantha, Vahl. (4) cymosa, E. As Elliott's plant differs essentially from the cymosa of M. it becomes necessary to give it another name. (5) pennsylvanicum, Lk. recurvatum, Mx.

tri'fidum, Mx. (A. y-g. M. ♄.) unarmed: leaves moderately lobed, glabrous above, pubescent beneath: racemes lax, pubescent: flowers flattish: divisions of the calyx about 3-cleft: petals spatulate, obtuse: berries hirsute, red. P. Canada.

vigens, Mx. (mountain currant. A. M. ♄.) unarmed: branches straight: leaves acutely lobed and toothed, reticulate-rugose, pubescent beneath: racemes lax, becoming stiffly erect: berries sub-hispid, red, erect. P. W. Canada. Wachuset. Monadnok. White Mts.

glandulo'sum, A. (1) (r-y. M. ♄.) unarmed: branches reclined-prostrate: leaves lobed, smoothish; younger ones pubescent: racemes sub-erect: petals deltoid: bracts minute: berry hispid. Most of the plant, particularly the calyx, covered with glandular hairs. 2—3 f.

sanguineum, Ph. (W. r. p. Mar. ♄.) unarmed: leaves cordate, 3-lobed, serrate, with vein-like lines, glabrous above, sparingly white, tomentose beneath: racemes lax, pubescent, twice as long as the leaves: calyx tubular: petals oblong, of the length of the calyx; bracts obovate-spatulate, as long as the pedicels: germs hirsute.

au'reum, Ph. (W. y. Ap. ♄.) unarmed, very glabrous: leaves 3-lobed: lobes divaricate, with a few gash-teeth, shorter than the petiole: petiole ciliate at the base: racemes lax, dense-flowered: calyx tubular, longer than the pedicles; tube slender; divisions oblong, obtuse: petals linear, half as long as the divisions of the calyx: bracts linear, as long as the pedicles: berries glabrous.

laxiflorum, Ph. (2) (W. y. ♄.) unarmed: leaves cordate, 5-lobed, gash-toothed, glabrous: petioles slender: racemes lax, erect, as long as the leaves: bracts subulate: pedicles elongated: calyx bell-tubular: berries globose, hispid.

prostratum, Le Herit. ( ) unarmed: leaves deeply cordate, 5—7-lobed, glabrous; lobes acute, doubly cut-serrate, naked and glabrous both sides: racemes slender, erect, lax: bracts small, obtuse, many times shorter than the glandular-setose pedicel: calyx wheel-form: germ and berry glandular-setose. Berries red. Canada. R. A. P.

bracteosum, Doug. (p-y.) unarmed, leaves longly petioled, cordate, deeply 5—7-lobed; lobes acuminate, doubly gash-serrate, finely hispid above, resinous-punctate beneath: racemes often terminal, at length deflexed: pedicles erect-spreading, pubescent, exceeding the spatulate bracts: calyx rotate, glabrous: petals minute, roundish: germs and berries resinous punctate. 5—8 f. A. R.

hudsonianum, Rich. ( ) unarmed: branches erect: leaves three-lobed, very glabrous above, resinous-punctate beneath: leaves and petioles villose: racemes erect, pubescent: bracts short; divisions of the campanulate calyx spreading, villose: germs punctate: berries globose, glabrous, black. A var. has the racemes longer: calyx somewhat glabrous. R. A.

cereum, Doug. ( ) unarmed: leaves small, cordate, lobed, serrate, glandulous-pubescent, glabrous, glaucous, white-glandulous above: racemes pendulous, sub-capitate, 3—5-flowered: bracts ovate appressed to the glabrous germ: flowers sub-sessile, angular-cylindric: divisions of the calyx small, reflexed. R.

viscosissimum, Ph. (W. y. J. ♄.) unarmed, wholly viscid-pilose: leaves cordate, obtusely 3-lobed, serrate: racemes erect, short: calyx tubu-

(1) prostratum, Hr. (2) prostratum? Le Herit.

lar: petals oblong: bracts linear-spatulate, half as long as the pedicel: germs hirsute.

tenuiflorum, Lindl. ( ) unarmed: leaves sub-rotund, three-lobed, mealy; lobes obtusely dentate at the apex: racemes pendulous, many-flowered: calyx tubular, glabrous, colored; longer than the pedicel: petals very entire, half as long as the linear, obtuse divisions of the calyx: berry glabrous. R.

2. *Gooseberry like. Peduncles mostly fxo-flowered, rarely sub racemed.*

hirtellum, Mx. (W. A. g. M. ♄.) spines small, sub-axillary: branches sub-hispid: leaves small, semi-trifid: lobes sub-dentate: peduncles 1-flowered: berries glabrous, red. *S.* W. T. P. Canada.

gracile, Mx. (1) (M. ♄.) spines small, sub-axillary: leaves petioled, slender, pubescent both sides: lobes acute, gash-toothed: peduncles capillary, (filiform?) about 2-flowered: calyx bell-tubular: berries glabrous, bluish, purple. 2—3 f. *S.* P. W. T. N.

triflorum, W. (wild gooseberry. A. g. M. ♄.) spine sub-axillary: leaves glabrous, 3—5-lobed, gash-toothed: peduncles sub-3-flowered, with the pedicels elongated: bracts very short: petals spatulate, undulate: style hirsute, half 2 or 3-cleft, exsert: berries glabrous, pale-red. 3—4 f. *S.* B. N. F. V.

oxyacanthoides, (smooth gooseberry. W. M. ♄.) the large sub-solitary prickles near the buds, the smaller ones scattered: leaves glabrous, with toothed lobes: peduncles short, about 2-flowered: berries glabrous. 3 f. P. C. Canada.

lacustris, P. (2) (swamp gooseberry. g-y. M. ♄.) sub-axillary spines few: stem every where aculeate hispid: leaves lobed beyond the middle: petioles villose: berries somewhat racemed, hispid. 3—4 f. *S.* C. W. N. P. V. B. O. Canada.

cynos'bati, Mx. (prickly gooseberry. W. g. M. ♄.) sub-axillary spines about in pairs: leaves short-lobed, gash toothed, with soft pubescence: racemes nodding, few-flowered: calyx erect, bell-form: berries prickly, dark brown. T. W. P. C. Catskill Mt.

speciosum, Ph. (W. p. ♄.) under the buds 3-plaited prickly: leaves wedge-roundish, gash-crenate, glabrous, nerved, paler beneath, short-petioled: peduncles about 3-flowered, longer than the leaves: pedicels and germs glandular-pilose: calyx tubular, longer than the pedicles: stamens very long, exsert.

menziesii, Ph (W. r. p. ♄.) under the buds 3-plaited-prickly: branches very hispid: leaves truncate at the base, sub-5-lobed, gash-toothed: lateral lobes shortest, tomentose beneath: peduncles about 2-flowered equal to the leaves: calyx tubular; limb spreading: stamens as long as the calyx: style exsert: berry globose, prickly.

setosum, Lindl. (g.) branches densely setose: prickles unequal, subulate: leaves sub-rotund, cordate at the base, pubescent, 3—5-lobed, deeply crenate: peduncles two-flowered, somewhat bracted: calyx tubular-campanulate; divisions linear, obtuse, spreading, twice as long as the very entire petals. Berries hispid. R.

divaricatum, Doug. (g.) branches divaricate, setose, at length naked: spines 1—3, axillary, deflexed, coarse: leaves sub-rotund, 3-lobed, gash-toothed, nerved, glabrous: peduncles 3-flowered, nodding: calyx

(1) Synonymous with lacustris, Aikin. (2) oxycanthoides, Mx.

funnel-form; divisions at length spreading, twice as long as the tube: style and stamens exsert: berries glabrous. A. R.

irriguum, Doug. (g.) prickles axillary in threes: leaves cordate, somewhat 5-lobed, dentate, ciliate, both sides pilose, nerved: peduncles 3-flowered, glandulous-pilose: calyx campanulate, divisions linear, equaling the tube: berries glabrous. A.

saxosum, H. (1) (g.) stem unarmed, rarely aculeate: spines none, solitary or in pairs: leaves cordate, 5-lobed, serrate, sub-glabrous: peduncles very short, deflexed, 1—2-flowered: tube of the glabrous calyx, campanulate; divisions spreading, at length reflexed, twice as long as the corol, about equaling the stamens: germ naked. R A.

rubrum, (currant. g. M. ♄.) unarmed: racemes glabrous, nodding: corol flat: petals obcordate: leaves obtusely 5-lobed: stem erect. Berries red. 2—4 f. R.

Exotic.

nigrum, (black currant. g. M. ♄.) unarmed: leaves punctate beneath: racemes lax: flowers bell-form: bracts shorter than the pedicels. Berries black. 3—5 f.

grossula'ria, (english gooseberry. g. M. ♄.) branches prickly: petioles hairy: bracts 2-leaved: berry glabrous or hirsute. 2—4 f.

uva'crispa, (smooth gooseberry. g. M. ♄.) branches prickly: berry glabrous: pedicels with 1-leaved bracts. Perhaps a variety of the *grossularia*.

Southern.

resinosum, Ph. (A. g. Ap. ♄.) unarmed, wholly covered with resinous glandular hairs: leaves 3—5-lobed, roundish: racemes erect: calyx flattish: petals obtuse-rhomboid: bracts linear, longer than the pedicels: berries hirsute.

rotundifolium, Mx. (A. ♄.) spines sub-axillary: leaves roundish, subpubescent: lobes round obtuse: peduncles 1-flowered: limb of the calyx tubular: berries glabrous.

19—15. RI'CINUS. 38. 96.

Exotic.

communis, (caster-oil plant, palma christi. ☉.) leaves peltate, palmate: lobes lanceolate, serrate: stem with hoary mealiness. 4—6 f.

4—1. RIVI'NA. 12. 29.

laevis, ( ) racemes simple: leaves ovate, acuminate, glabrous, flat: stem terete. Resembles Phytolacea decandra. *S.*

Southern.

humilis, P. (♄.) racemes simple: flowers tetrandrous: leaves pubescent.

16—10. ROBIN'IA. 32. 93.

pseudo-acacia, (locust tree, false acacia. A. w. M. ♄.) leaves pinnate,

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Ricinus. Lat. *ricinus*, a tick, its seed, resembling that insect.
Rivina. In honor of the great German botanist, Rivinus.
Robinia. In honor of John Robin, botanist to Louis XIV.
(1) R. triflorum, Bw.

with a terminal leafet: stipules thorny, or a thorn: racemes pendant: teeth of the calyx unawned: legumes smooth. Cultivated. 30—40 f. *S.* N. B. F. P. T. C. O. Canada.

Southern

viscosa, (1) (clammy locust. A. Ju. ♄.) racemes with 1-flowered pedicels: leaves pinnate, with a terminal leafet: branches and legumes with viscous glands: calyx acuminate. Racemes axillary, dense-flowered, erect: flowers approaching from white to red. Cultivated.

hispida, (2) (rose locust, rose acacia. A. Ap. r. 2ſ.) racemes sub-axillary, sub-erect: calyx acuminate: stem mostly unarmed; most of the plant hispid: leaves pinnate, with a terminal leafet; leafets round-oval, mucronate, sometimes alternate. Var. *rosea*, branchlets nearly glabrous. Cultivated. 3—6 f.

nana, (r. ♄.) fruticose: leaves unequally pinnate, near the summit of the stem; leafets in 5—6 pairs, broad-elliptic, nearly round, mucronate; common petiole pubescent, not hispid. 1 f. Columbia, S. C. Gibbes.

5—1. ROCHELIA. (3) 41. 43.

virginiana, (W. w-b. J. ☉.) pilose: leaves lance-oblong, acuminate, scabrous above: racemes divaricate: seeds densely covered with hooked bristles. 2 f. *S.* P. C. T. O. F.

lappula, (b. Ju. ☉.) hispid: seeds prickly, bearded: leaves linear-oblong: stem branched above: corol longer than the calyx. 12—18 i. O. T.

glomerata, N. (4) (W. w. J. ♂.) hirsute: seeds rugose; leaves linear-spatulate: spikes peduncled, axillary, conglomerate, bifid; upper ones sessile: divisions of the corol entire. 6—12 i. R.

patens, N. (r. J. 2ſ.) strigose-pilose: leaves oblong-linear, obtusish: stem simple, nakedish: flower-bearing branches spreading: flowers peduncled, lax. R.

11—13. RO'SA. 35. 92.

blanda, W. (W. Ju. ♄.) germs globose, and with the peduncles hispid: leafets (7,) oblong, sub-equally serrate, glabrous: petioles glabrous, somewhat prickly: branches very hispid-aculeate.

parviflora, W. (5) (wild rose. O. r. w. ♄.) germs depressed-globose: germs and peduncles hispid: petioles pubescent, sub-aculeate, stem glabrous: prickles stipular, straight: leafets lance-oval, simply serrate, glabrous: flowers somewhat in pairs. Very variable. 1—3 f. S.

nitida, W. (r. Ju. ♄.) germs globose: calyx, peduncles and branches hispid: petioles sub-pilose, unarmed: leafets (7,) lance-oblong, both sides very glabrous and shining. S.

lucida, Eh. (W. r. Ju. ♄.) germs depressed-globose: germs and pedun-

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Rosa. Lat. *rose*. From Celtic *rhos*, or *rhudd*, red, alluding to the prevailing color of the flower.

(1) glutinosa, C. (2) montana, Bartram. roses, Du Hamel.

(3) Myosotis, L. (4) Cynoglossum, Ph. Myosotis, N. (5) carolina, Mx.

cles sub-hispid: petioles glabrous, sub-aculeate: stem glabrous: prickles stipular, straight: leafets lance-ovate, obtusish, coarsely serrate, glabrous, shining: flowers somewhat in pairs; divisions of the calyx entire. 4—6 f. *S.* P. Y. W.

gemella, W. (r. Ju. ♄.) germs depressed-globose: germs and peduncles glabrous: flowers somewhat in pairs: leaves oblong, acute, opake: petioles and veins pubescent beneath: prickles uncinate, the cauline ones in pairs below the axils. P. Y. D.

carolina, (1) (swamp rose. O. r-w. Ju. ♄.) germs globose: germs and peduncles a little hispid, or glabrous: petioles hairy, and a little prickly: stem glabrous: prickles stipular, sub-uncinate: leafets 5 or 7, lance-oblong, acute, sharply serrate, glaucous beneath: flowers solitary or corymbed. 3—6 f.

rubifolia, Br. (climbing rose. W. r. Ju. ♄.) germs sub-globose: germs and peduncles glandular-hispid: stem smooth: prickles short, solitary, uncinate: leaves petioled, ternate; leafets ovate, acute, serrate, glabrous above, white-downy beneath: divisions of the calyx-viscid-pilose: flowers corymbed. 6—8 f. *S.* K.

rubiginosa, (2) (sweet-briar, eglantine. W. r. J. ♄.) germ ovate: peduncles and petioles glandular-hispid; petioles somewhat prickly: stem glabrous: prickles scattered, hooked, slender: leafets (5 or 7,) ovate, serrate, sub-glandular beneath. 3—10 f. *S.* T. Y. C. P. N. B. O. F.

micrantha, S. (r-w. J. ♄.) germs ovate: germs and peduncles somewhat hispid: prickles hooked: leafets ovate, acute, with reddish glands beneath. Resembles the last in the odour of its leaves. 4—8 f. B.

sayi, Sz. (W. ♄.) germ oblong-ovate, smooth: divisions of the calyx persistent, erect, spreading at the summit, villous, longer than the germ: peduncles rigid, smooth or sub-glandular-hispid: petioles villous and prickly underneath: leafets (7,) ovate, sessile, deeply serrate, smooth above, glaucous-villose beneath: stipules clasping glandular-villose: younger branches aculeate hispid.

woodsii, Lindl. ( ) stipules and sepals connivent: leafets oblong, obtuse, glabrous. A var. has the leaves downy beneath. A.

fraxinifolia, Lindl. ( ) higher, unarmed; branches, stiffly erect, becoming glaucous: leafets opake, undulate, not hairy. R.

majalis, Lindl. ( ) lower: grayish: branches stiffly erect, colored: prickles scattered, somewhat equal: stipules linear: leafets oblong, flat, beneath glaucous, tomentose. A.

stricta, Lindl. ( ) very branching: branchlets unarmed: fruit elongated, pendulous. A var. has the leaves pubescent beneath. R. A.

Exotic.

canina, (dog rose. ♄.) germs ovate: germs and peduncles glabrous: stem and petioles prickly: leaves ovate, glabrous.

gallica, (french rose, common rose. r. J. ♄.) germs ovate; germs and peduncles hispid: stem and petioles hispid-prickly. Sometimes the colors are variegated.

damascena, (damask rose. w. r. J. ♄.) calyx half-pinnate: germ ovate,

(1) pennsylvanica, Mx. corymbosa, Eh. (2) suaveolens, Ph.

turgid, (thickened near its top,) bristly: stem and petioles prickly: leafets ovate, pointed, downy beneath.

musco'sa, (moss rose. r. Au. ♄.) germs ovate: calyx, peduncles, petioles and branches hispid, glandular-viscid, (mossy-like:) spines of the branches scattered, straight.

moschata, (musk rose. ♄.) germs ovate: germs and peduncles villose: stem and petioles prickly; leafets oblong, acuminate, glabrous: panicle many-flowered.

burgundiaca, (burgundy rose. ♄.) germs sub-globose: germs and peduncles hispid: leafets ovate, pubescent beneath: corol small, full, fleshy-white; disk obscure. Var. *provincialis*, has scattered reflexed prickles on the branches, and glandular serratures.

semperflorens, (monthly rose. ♄.) germs ovate-oblong, tapering to both ends: germs and peduncles hispid: stem prickly; flowers in erect corymbs. Resembles *damascena*.

alba, (white rose. w. J. ♄.) germs ovate, glabrous or hispid: stem and petioles prickly: leafets ovate, villose beneath.

pimpinellifolia, (burnet rose. r. ♄.) germs globose: germs and peduncles glabrous: stem with scattered straight prickles: leaves obtuse, petioles scabrous. Very small.

centifolia, (hundred-leaved rose. r. ♄.) germs ovate: germs and peduncles hispid; stem hispid, prickly: leaves pubescent beneath: petioles unarmed.

cinnamo'mea, (cinnamon rose. ♄.) germs globose: germs and peduncles glabrous: stem with stipular prickles: petioles somewhat unarmed: leafets oblong. R. majalis. Stem brown-cinnamon color.

multiflora, (japan rose. ♄.) germs ovate: germs and peduncles unarmed, villose: stem and petioles prickly. Branches generally purple: leafets ovate: flowers small, panicled.

spinosissima, (scotch rose. ♄.) germs globose, glabrous: peduncles hispid: stem and petioles very hispid. Var. *scotica*, is smaller.

parvifolia, (small-leaf rose. ♄.) small: germs ovate, sub-glabrous: peduncles glandular: stem and petioles with slender prickles: leafets rugose, a little villose beneath, ovate, glandular-serrate.

Southern.

setige'ra, Mx. (J. ♄.) germs globose: petioles and veins prickly: branches glabrous: prickles in pairs and scattered: leafets 3—5, acuminate glabrous: leafets of the calyx fringed with bristles. 5—8 f.

lutescens, Ph. (y-w. J. ♄.) germ globose; germs and peduncles glabrous: branches hispid-spiny: leafets (7,) glabrous, oval, acuminate-serrate; petioles unarmed: flowers solitary: divisions of the calyx lanceolate, cuspidate: petals oval, very obtuse.

laevigata, Mx. (cherokee rose. w. Ap. ♄.) germ oblong, hispid: leaves perennial, ternate; leafets lanceolate, serrate, coriaceous, lucid; flowers solitary, terminal. 5—20 f.

lyo'nii, Ph. (W. r. Ju. ♄.) germs sub-globose, nearly glabrous: peduncles hispid; petioles somewhat prickly; stem glabrous: prickles scattered, straight: leafets (3—5,) ovate-oblong, acute, serrate, sub-glabrous above, tomentose beneath; upper ones simple; flowers somewhat in threes: stipules linear: divisions of the calyx tomentose, linear, scarcely gashed.

pendulina, W. (thornless rose. r. J. ♄.) unarmed: germs oblong: pe-

duncles and petioles hispid: stem and branches glabrous: fruit pendant. Cultivated.

2—1. Rosmari'nus. 42. 42.

Exotic.

officinalis, (rosemary. ♄.) leaves some green both sides: others whitish beneath, linear: margins revolute.

3—2. Rottbo'llia. 4. 10.

Southern.

dimidiata Mx.? (hard grass. L. 2ℓ.) spike compressed, linear: flowers secund: calyx 2-valved. 2-flowered: outer floret staminate: inner one perfect. Charleston, S. C.

ciliata, N. (L.) culm erect, tall: spikes terete, long-peduncled: flowers pediceled, secund: pedicels and margins of the rachis villose: calyx and corol each 2-valved. 3—4 f.

rugosa, N. (L.) culm erect, leafy: spikes cylindric, solitary, axillary, proximate: joints of the rachis smooth, nearly semi-cylindric, tumid: outer valve of the perfect flower transversely rugose; accessory flower mostly barren with an emarginate pedicel.

4—1. Ru'bia. 47. 57.

Exotic.

tincto'ria, (madder.) leaves lanceolate, about in sixes: stem prickly, climbing. Var. *sylvestris*, lower leaves in sixes, upper ones in fours or in pairs.

Southern.

brownei, Mx. (y. 2ℓ.) hispid: leaves in fours, oval: peduncles solitary, 1-flowered: stem decumbent. Berries purple, smooth, Ph. Carolina.

11—13. Ru'bus. 35. 92.

ide'us, (garden raspberry. W. w. M. ♄.) leaves quinate-pinnate and ternate; leafets rhomb-ovate, acuminate, downy beneath: petioles channelled: stem prickly, hispid: flowers sub-panicled. Var. *americanus*, branchlets nearly glabrous; stem and petioles terete: leaves all ternate: pedicels somewhat prickly. 4—6 f. *S. F.*

villosus, (high blackberry. O. w. J. ♄.) pubescent, hispid and prickly: leaves digitate, in threes or fives; leafets ovate, acuminate, serrate, hairy both sides: stem and petioles prickly: calyx short, acuminate: racemes naked: petals lance-ovate. 4—6 f. *S.*

Rosmarinus. Lat. *ros*, dew, and *marinus*, belonging to the sea-shore, from its appearance and habitation.

Rottbollia. In honor of Dr. Christian Rottboll, professor of botany at Copenhagen.

Rubia. Lat. *ruber*, red, from the dye obtained from its roots.

Rubus. Lat. *ruber*, red, from Celtic *rub*, the plant presenting a red hue.

frondosus, Bw. (1) (leafy raspberry. J. 2ℓ.) stem prickly, erect: leaves ternate or quinate, pubescens simple: racemes leafy: petals orbicular. 3—6 f. B. C.

strigosus, Mx. (2) (red raspberry. O. w. J. ♄.) unarmed, rigidly hispid: leafets 3, or pinnate-quinate, oval, at the base obtuse, acuminate, marked with lines, and white-dowy beneath, terminal one often subcordate. Fruit red, sweet.

setosus, Bw. (bristly raspberry. w. J. 2ℓ.) stem erect, reclining, rigidly hispid: leaves ternate or quinate, smooth and green on both sides. B.

cuneifolius, Ph. (w. J. ♄.) branches, petioles and peduncles downy, with recurved prickles: leaves digitate, in threes or fives: leafets wedge-obovate, unequally toothed above, plaited, downy beneath: racemes terminal, panicled: pedicels 1-flowered. S. P. Y. T.

canadensis, (3) (J. ♄.) a little glabrous: leaves digitate, in tens, fives and threes: leafets lanceolate, naked both sides, sharply serrate: stem unarmed: bracts lanceolate. Stem purple. C. N. Canada.

occidental'is, (black raspberry, thimble berry. O. w. g. ♄.) branches and petioles glaucous and prickly: leaves ternate, oval, acuminate, sublobate and doubly serrate, white-downy beneath; petioles terete: prickles recurved. 4—8 f. S.

hispidus, (w. J. ♄.) sarmentose-procumbent: stem, petioles and peduncles very hispid, with rigid bristles: leaves ternate, gash-serrate, naked, middle one peduncled. P. O. D. Canada.

trivial'is, A. (4) (creeping blackberry, dew-berry. O. w. J. ♄.) sarmentose-procumbent: petioles and peduncles aculeate-hispid, with the prickles recurved: stipules subulate: leaves ternate or quinate, oblong-oval, acute, unequally serrate, sub-pubescent: pedicels solitary, elongated. Var. *flagellaris*, has orbicular petals, and small smooth leaves. S.

inermis, W. (♄.) stem, petioles and peduncles unarmed: leaves ternate, ovate, acute, unequally serrate, tomentose beneath; lateral leafets somewhat gashed: stipules setaceous-subulate.

spectabilis, Ph. (W. M. ♄.) unarmed, glabrous: leaves ternate, ovate, acute, unequally and doubly serrate, pubescent beneath: peduncles terminal, 1-flowered, solitary: petals ovate.

odora'tus, Mx. (flowering raspberry, wild mulberry. Wr. J. ♄.) unarmed, erect, viscid hispid: leaves simple, acutely 3 or 5-lobed: corymbs terminal, spreading. Flowers large; berries rather dry and thin. 3—6 f. S. T. C. O. N. V.

nutkanus, Lindl. (w.) stem fruticose, erect, flexuous, stoloniferous, glandulous-pilose at the apex, nakedish at the base: leaves 5-lobed, unequally dentate: corymb simple: calyx somewhat unarmed cuspidate: divisions of the corol equal: stipules connate, persistent. Fruit red, insipid. 4—10 f. A. R.

saxat'ilis, (5) (brier herb, rock blackberry. w. J. 2ℓ.) herbaceous, pubes-

(1) Var. of villosus? Aikin. (2) pennsylvanicus, Lk.
(3) triflorus, Rich. (4) procumbens, M. flagellaris, W.
(5) synonymous with canadensis, Aikin. triflorus, Rich. thus described—unarmed: stem erect, herbaceous with fruticose runners, cauliferous: leaves ternate, rarely 5-pedate, acutely serrate: stipules obovate: panicle about 5-flowered, glandulous. Canada. Lake Huron. R. A.

cent: stem creeping: leaves ternate, rhombic, acute, gash-toothed, naked; terminal one petioled: flowers somewhat in threes: peduncles elongated. *S.* O. D.

obovalis, Mx. (M. 2ℓ.) stem becoming a little woody, hispid, with stiff hairs; leaves ternate, round-obovate, serrate, naked: stipules setaceous: racemes sub-corymbed, few-flowered: bracts ovate: pedicels elongated. 2—4 f. *S.* Y. N. P.

sempervi'rens, Bw. (w. J. ♄.) stem procumbent, covered with minute prickles: leaves ternate, obovate, serrate, shining, evergreen. B. T.

arcticus, W. (r. J. 2ℓ.) herbaceous, small: stem unarmed, about 1-flowered: leaves ternate, glabrous, obtusely serrate: petals roundish, emarginate. Labrador.

acaulis, Mx. (1) (W. Ju. 2ℓ.) herbaceous, small: stem unarmed, 1-flowered: leaves ternate, glabrous, sharply serrate: petals oblong, entire: styles approximate. Canada.

stellatus, W. (W. p. 2ℓ) herbaceous, small: stem unarmed, erect, 1-flowered: leaves simple, cordate, 3-lobed, rugose-veined; petals lanceolate.

pedatus, S. (W. w.? 2ℓ.) herbaceous, small, creeping: leaves pedate-quinate, gashed: peduncles filiform, bracted in the middle: calyx nearly glabrous, reflexed.

chamæmorus, (cloud-berry. A. w. J. 2ℓ.) herbaceous, small: stem unarmed, 1-flowered, erect: leaves simple, sub-reniform, round-lobed: petals oblong. Canada.

parviflorus, N. (W. w. ♄.) shrubby, unarmed: leaves simple, palmate-lobed: peduncles 2 or 3-flowered: flowers small: segments of the calyx villose, ovate, abruptly acuminate: petals oblong-ovate. D.

deliciosus, T. & J. (W. p. ♄.) stem fruticose, very branching, unarmed: branches and petioles pubescent: leaves simple, round-cordate, shortly 3—5-lobed, villose-pubescent, rugose: bracts lanceolate, 1-toothed: flowers sub-corymbed, terminal: divisions of the calyx ovate-oblong, acuminate, leafy at the apex, shorter than the petals.

macropetalus, Doug. (w.) hirsute: stem high, fruticose: branches angled, slender, elongated: petioles ribbed, peduncles and calyx aculeate-setaceous beneath: leaves trifoliate; leafets ovate, gash-lobed, serrate, membranaceous; terminal one larger, longly petioled: lateral ones shorter-petioled: stipules lanceolate: peduncles 2-flowered: segments of the calyx longly acuminate, somewhat equalling the oblong petals. A. R.

menziesii, H. (r.) stem procumbent, terete, aculeate, glabrous: branches short, pubescent-tomentose, aculeate: leaves trifoliate; leafets broad-ovate, sub-lobed, unequally serrate, short-petioled, hirsute above, pale and very hirsute beneath: panicles terminal, few flowered: pedicels and calyx aculeate: segments of the calyx ovate, acute, mucronate, tomentose, shorter than the corol. A.

suberectus, And. ( ) somewhat glabrous: stem sub-erect, angled, aculeate: prickles scattered, uniform: leaves with 3—5-leafets: panicle lax, few-flowered: segments of the calyx ovate, very acuminate, margin chiefly pubescent. D. A. Newfoundland.

nivalis, Doug. (r?) small: becoming fruticose: leaves cordate-3-lobed, sharply dentate, glabrous, nerves and petioles recurve-aculeate: stip-

(1) pistillatus, S.

ules ovate, acute: peduncles short, 2-flowered; divisions lanceolate, pilose. Fruit red. 6 i. On R. Mts.

mucronatus, Ser. ( ) stem herbaceous, pilose, unarmed: leaves ternate-palmate, uniform colored, pilose; leafets rhomboid, acute, serrate: stipules lance-ovate, acuminate: flowers terminal, in pairs: divisions of the calyx lanceolate, acute, slightly pubescent, shorter than the corol. Newfoundland.

17—3. RUDBECK'IA. 49. 53.

purpurea, W. (W. A. p. Ju. 2[.) rough: lower leaves broad-ovate, tapering to the base, remotely toothed; cauline leaves lance-ovate acuminate at both ends, sub-entire: rays long, pendant, 2-cleft. 3—5 f. *S.* P.

discolor, Ph. (W. y. & p. Au. 2[.) branches corymbed, 1-flowered: peduncles naked, elongated: leaves lanceolate, strigose-pilose: scales of the calyx ovate, acute: petals lanceolate, entire, two-colored, as long as the calyx. 2 f. *S.* D.

fulgida, (W. A. p. Au. 2[.) stem hispid: branches wand-like, elongated, 1-flowered: leaves lance-oblong, denticulate, hispid, narrow at the base, sub-cordate: calyx leafy, about equalling the ray: disk hemispheric, with lanceolate chaff. 2—3 f. *S.* P.

hirta, (W. y. & p. Ju. 2[.) very hirsute: stem wand-like, sub-ramose, 1-flowered; peduncles naked: leaves ovate-spatulate, 3-nerved, serrate, rough-haired: scales of the calyx imbricate in a triple series, shorter than the ray: chaff oblong acute. 2—3 f. *S.* P. C. M. D. Charleston, S. C. Florida. Toronto.

triloba, (W. A. y. & p. Au. 2[.) pilose-hispid: stem panicled: branches divaricate, many-flowered, leafy: leaves lanceolate, acuminate at both ends, serrate; lower ones 3-lobed: leafets of the calyx linear, deflexed. 4—5 f. *S.* P.

laciniata, (cone-flower, cone-disk sunflower. Q. y. Au. 2[.) lower leaves pinnate; leafets 3-lobed; upper ones ovate: egret crenate: stem glabrous. Damp. 5—10 f. *S.*

digitata, (W. y. Au. 2[.) lower leaves pinnate; leafets pinnatifid; upper ones simply pinnate; top ones 3-cleft: egret crenate: stem smooth. 4—8 f. *S.* P. D.

pinnata, Mx. (1) (W. y. & p. Ju. 2[.) leaves all pinnate: one or more of the lower leafets 2-parted, the rest undivided: egret entire: stem furrowed, hispid. P.

globosa, N. (y. 2[.) scabrous; small; ramose: leaves sub-sessile, trifid; cauline ones quinate-pinnatifid; divisions very narrow, very entire: flowers sub-sessile, roundish; rays very short, reflexed. 9 i. R.

Southern.

amplexifolia, W. (W. y. Au. ☉.) glabrous: leaves lance-oblong, cordate, clasping; lower ones serrate: disk cylindric-conical.

laevigata, Ph. (y. 2[.) very glabrous: leaves lance-ovate, acuminate at each end, 2-nerved, sparingly toothed: scales of the calyx lanceolate, as long as the ray.

Rudbeckia. In honor of the Rudbecks, father and son, predecessors of Linneus.

(1) digitata, W. odorata, S.

spatulata, W. (A. Au. ♂.) slender pubescent: stem 1-flowered: leaves obovate spatulate, entire: calyx spreading, imbricate: ray florets 3-toothed.

aristata, Ph. (y.) stem hispid: branches long, corymbed, 1-flowered: leaves lance-oblong, serrate, hispid: disk sub-hemispheric: chaff of the egret subulate, awned. Does this belong to this genus? Elliott.

radula, Ph. (1) (♂.) stem hispid below, nakedish and glabrous above: peduncles very long, 1-flowered: leaves ovate, attenuate, tuberculate-hispid: calyx imbricate: scales ovate, acuminate, ciliate.

subtomentosa, Ph. (A. Au. 2f.) short pubescent, sub-tomentose: branches erect, many-flowered: leaves lance-oblong, acute, sub-serrate; lower ones 3-lobed: scales of the calyx incumbent, shorter than the rays.

columnaris, Ph. (W. r. Ju. 2f.) leaves pinnatifid; leafets lanceolate, outer ones generally largest: receptacles elongated, cylindrical. 1 f.

gracilis, N. ( ) slender, pubescent: stem 1—3-flowered: peduncles elongated: leaves spatulate-ovate, remotely denticulate: calyx spreading: disk conic.

tomentosa, E. (y. Au. 2f.) short-pubescent, sub-tomentose: branches erect, virgate: leaves lanceolate, acute, deeply toothed and entire, scabrous; lower ones ternate: scales of the calyx lance-linear, deflected, much shorter than the ray florets. "I am uncertain whether this is the sub-tomentosa of Ph." Elliott. 3—4 f.

mollis, E. (p. S. 2f.) stem hispid, villous, branching: leaves sessile, lance-ovate dentate, soft-tomentose: florets of the ray numerous, thrice as long as the calyx. 2—3 f.

pallida, N. (p-r. 2f.) rough: leaves lance-linear, very longly petioled, sub-entire; upper ones sessile: rays very long, hanging down, two-toothed: stem elongated, one-flowered. Arkansas.

apetala, Y. (2f.) scabrous; stem elongated, one-flowered, very pilose at the base: rays for the most part wanting: leaves radical, sub-sessile, very broadly ovate, sub-rotund. Alabama. Georgia.

nitida, N. (2f.) very glabrous: stem nakedish, somewhat one-flowered: leaves coriaceous, spatulate, oblong, sub-entire; cauline ones few, oblong, sessile: calyx foliaceous; scales oblong, retuse, reflexed at the apex. Georgia. Florida.

odorata, N. (y. 2f.) stem leafy, few-flowered: leaves petioled, trifid, hirsute, pubescent beneath; divisions lanceolate, serrate, acuminate; lower ones somewhat gashed: calyx squarrose: receptacle hemispheric. Arkansas.

atrorubens, N. (r. 2f.) glabrous: stem elongated, terete, one-flowered: leaves narrow-lanceolate, sub-linear, entire, attenuated at the base, longly petioled, scabrous at the margin: rays two-toothed: chaffs exsert, lanceolate, acute. Arkansas. Georgia.

serotina, N. (y. p. 2f.) hirsute: scabrous: stem somewhat one-flowered: leaves spatulate-oblong, sub-serrate, somewhat half-clasping; lower ones petioled, 3-nerved, ovate: divisions of the calyx lanceolate: scales oblong-lanceolate, pubescent, short: rays largish. Arkansas. Georgia.

bicolor, N. (y. b-r. ☼.) pilose: sub-scabrous: stem somewhat one-flowered: leaves oblong, sessile, rarely sub-serrate, obtusish; lower ones

(1) aspera, P1

sub-ovate, petioled; divisions of the calyx oblong: scales lanceolate, hirsute: rays short, bi-colored. 18 i. Arkansas.

13—2. RUEL'LIA. 40. 39.

strepens, (1) (ruel. W. w. p. Ju. 2ſ.) erect: leaves ovate, lance-ovate or wedge-form, short-petioled, entire or repand, undulate, sub-ciliate at the base, smooth or sub-pilose on both sides: peduncles axillary, very short, about 3 flowered: divisions of the calyx linear, rather shorter than the tube of the corol, scarcely pilose: corol sub-equal. Very variable. 6—24 i. S. P. M. Florida.

Southern.

ciliosa, Ph. (2) (W. w. p. J. 2ſ.) erect, branching, more or less hirsute; leaves petioled, oval, oblong or lance-oblong, acute or obtusish, sometimes cuneate or attenuated into the petiole, undulate, entire or repand, sub-ciliate: peduncles axillary, short or wanting, 1—3-flowered: divisions of the calyx half as long as the tube of the corol, linear, hispid, ciliate with whitish hairs: corol sub-equal. 3—24 i.

tubiflora, Le Conte. (w. 2ſ.) erect, somewhat branching, smoothish or hirsute: leaves sub-sessile, oblong, repand or entire, undulate: peduncles axillary, short, 1-flowered: divisions of the calyx lance-linear, (1 inch,) one third the length of the tube of the corol: corol sub-equal, pubescent.

oblongifolia, Mx. (W. b. & p. Ju. 2ſ.) erect, pubescent: leaves sub-entire, oval and obovate, sub-sessile, sub-undulate: peduncles axillary, very short, 1—3-flowered: divisions of the calyx linear-subulate, longer than the tube of the corol, united at the base in a short tube: corol sub-ringent: stamens didynamous. This species differs from the preceding sufficiently to make us wonder how it has escaped our new genera manufacturers. Le Conte.

6—3. RU'MEX. 12. 28.

sanguineus, (bloody dock, olcott root. W. J. 2ſ.) valves entire, oblong, one principally bearing the grain-like appendage: leaves heart-lanceolate. 2—3 f. S. P. C.

crispus, (dock. O. Ju. 2ſ.) valves of the calyx ovate; entire, all bearing grain-like appendages on their backs: leaves lanceolate, undulate, acute. 2—3 f. S.

verticillatus, W. (W. J. 2ſ.) valves entire, all bearing grain-like appendages: spikes leafless, with the flowers half-whorled: leaves lanceolate, sheathing stipules cylindric. 2 f. S. T. V. P. C. F. N.

britannicus, (W. J. 2ſ.) valves entire, all bearing grain-like appendages: spikes of the panicle leafless: sheathing stipules obsolete, torn: leaves broad-lanceolate, flat, smooth. 2—3 f. S. P. Y. T. C. B. D. O. Peekskill.

pallidus, Bw. (white dock. J. 2ſ.) valves ovate, entire, hardly larger than the grain: spikes slender: leaves lance-linear, acute. B.

obtusifolius, (O. J. 2ſ.) valves toothed, one principally bearing a grain-

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Ruellia. In honor of John Ruelle, a French physician and botanist.
Rumex. Lat. *rumex*, sorrel or dock, the ancient Roman name.
(1) humistrata, Mx. hirsuta, E. (2) hybrida, Ph.

like appendage: radical leaves heart-oblong, obtuse: stem a little scabrous. Perhaps introduced. 2—4 f.

aquaticus, (water dock. Ju. 2[.) valves ovate, entire, bearing obsolete grains: leaves heart-lanceolate, acute. 3—4 f. *S.*

acutus, (W. M. 2[.) valves oblong, somewhat toothed, all graniferous: leaves heart-oblong, acuminate, whorls leafy. Introduced. 2—3 f. N.

acetosellus, (1) (field sorrel: sheep sorrel. O. g. p. M. 2[.) valves without grains: leaves lance-hastate: flowers dioecious. 6—12 i. *S.*

alpi'nus, ( ) polygamous: valves veined, very entire, naked: leaves cordate, obtuse, wrinkled, large, rhubarb-like. New Haven, Ct.

paucifolius, N. (J. 2[.) flowers dioecious: stem simple: leaves lance-oblong; obtuse, tapering to the base, petioled: flowers panicled. 14 i. R.

Exotic.

pulcher, (Ju. 2[.) valves toothed; one conspicuously graniferous: radical leaves panduriform. Naturalized.

patientia, (garden dock, patience. 2[.) valves entire, one of them bearing a grain-like appendage: leaves lance-ovate. Naturalized.

acetosus, (garden sorrel. 2[.) stem elongated: leaves oblong, sagittate-acute, clasping.

Southern.

persicarioides, (W. J. ☺.) valves toothed, each bearing a grain: leaves lanceolate, undulate, entire, petioled. 6—12 i.

crispatulus, Mx. (W.) valves obtusely cordate, all crested, 3-toothed; one naked; two unequally graniferous: spikes leafless: lower leaves oval; upper ones lanceolate: all undulate.

venosus, Ph. (W. Ap. 2[.) valves large, heart-reniform, entire, net-veined: leaves small, lance-oval, entire, veined. 12 f.

dicaricatus? (Ju. 2[.) valves toothed, each bearing a grain: leaves cordate-oblong, obtuse, pubescent. 1—2 f.

hastatulus, Bald. (Ap. 2[.) valves round-cordate, entire, graniferous: leaves petioled, hastate-oblong, auricles entire, obtuse. Dioecious. 1—3 f.

Rumex, OXYRIA.

4—4. RUP'PIA. 15. 7.

maritima, (sea-teasel grass. J. 2[.) floating: leaves pectinate, obtuse: flowers spiked. P. Y. B. C.

10—1. RU'TA. 26. 81.

Exotic.

graveolens, (rue.) leaves more than decompound: leafets oblong, terminal ones obovate: petals entire.

Ruppia. In honor of Henry Bernard Ruppius, of Gottingen, an ardent student in the study of botany.

Ruta. Probably from the Gr. *ruō*, to preserve, or protect, on account of its medical qualities.

(1) Lapathrum, 2d ed.; but the acetosus and patientia seem to unite the two genera.

S.

6—3. SA'BAL. 1. 11.

Southern.

pumila, Wr. (1) (Ju. ♄.) leaves fan-form: scape panicled: flowers subsessile: small. Berry bluish-black. 4—6 f.

minima, N. ( ) root creeping: stipe somewhat prickly, rough: fronds palmate, plicate, sub-7-cleft? Fruit brownish, hirsute. 8 i.

Sabal, CHAMAEROPS.

5—1. SABBA'TIA. 47. 46.

gra'cilis, Sy. (2) (W. r. Ju. ♂.) slender: branches lax, elongated, 1-flowered: leaves oval-linear: divisions of the calyx linear, about equalling the corol: divisions of the corol obovate: stem angular. 1 f. *S.* P.

stellaris, Ph. (3) (r. Au. ♂.) erect: branches dichotomous, elongated, 1-flowered: leaves lanceolate, acute: divisions of the calyx subulate, half as long as the corol: divisions of the corol obovate: stem terete. 12—18 i. *S.* Y. F.

angularis, (american centaury. W. p. Au. ♂.) erect: leaves heart-ovate clasping: flowers with long peduncles, corymbed: divisions of the calyx lance-linear: stem with 4-margined angles. 1—2 f. *S.* P. H. M.

calycosa, Mx. (r. Au. ♂.) erect, few-flowered: leaves oblong, obtusish, sessile: flowers solitary, about 7-parted: calyx leafy, exceeding the corol: divisions lanceolate. 1 f. *S.* P. Y.

chloroides, Mx. (4) (r. Au. ♂.) weak: leaves lanceolate, erect: branches few, 1-flowered: flowers 7 to 13-parted; divisions of the calyx linear, shorter than the divisions of the corol. Var. *erecta*, E. stem rigid, erect: leaves linear: corol 10-parted; segments lanceolate. Var. *coriacea*, E. stem erect, sparingly branched: lower leaves sub-oval; corol thick, coriaceous, 8-parted. Var. *flexuosa*, E. stem flexuous: leaves lance-linear: corol 12-parted; segments long, lanceolate: stigmas revolute? 2—3 f. *S.* P. Y. B.

corymbosa, Bald. (5) (w. Au. 2ſ.) leaves ovate, acute, closely sessile: stem somewhat angled: flowers corymbed: divisions of the calyx subulate, shorter than the corol. Var. *angustifolia*, leaves linear or lance-linear: calyx nearly as long as the corol. 1 f. *S.* Charleston, S. C.

paniculata, Mx. (6) (w. Au. 2ſ.) very branching: panicle diffuse: leaves lance-linear: stem sub-terete: branches alternate. 1—2 f. Y.

Southern.

brachiata, E. (r. Ju.) leaves lanceolate: panicle long: branches brachiate, about 3-flowered: corol twice as long as the calyx.

Sabal. A name of barbarous origin: applied by Adanson.

Sabbatia. In honor of Liberatus Sabbati, an Italian botanist.

(1) adansoni, P. Corypha, Wr. minor, Jn. Raphis acaulis, W. Chamaerops, Mx.

(2) campanulata, L. (3) gracilis, E. (4) Chlora dodecandra, L.

(5) paniculata. Var. angustifolia, Ph. (6) Swertia difformis, L.

gentianoides, E. (r. Au.) leaves long, linear: flowers axillary, sessile: upper ones crowded: corol about 10-parted.

3—2. Sac'charum. 4. 10.

Exotic.

officinarum, (sugar cane.) flowers panicled, in pairs, one sessile and one pedicelled: corol 1-valved, awnless. From the East Indies.

Saccharum, Erianthus.

4—4. Sagi'na. 22. 82.

procumbens, (pearl-wort. w. g. J. 2ſ.) stem procumbent, glabrous: petals very short. At new Haven it grows mostly in running water, or very wet shady places, forming a kind of water mat: but it grows along dry road-sides in other places. 3—4 i. *S.* T. Y. C. R. F. H. N.

apetala, (annual pearl-wort. J. ☺.) stem erectish, pubescent; flowers sub-apetalous. Both species have linear, glabrous, connate leaves, and axillary flowers. P.

fontinalis, Short and Peter. (Ap. ☺.) apetalous: stem procumbent, branching, dichotomous above: leaves opposite, linear-spatulate, entire: pedicels solitary, alternate, longer than the leaves. 8—15 i. K.

19—12. Sagitta'ria. 5. 13.

sagittifolia, (1) (arrow-head. O. w. Ju. 2ſ.) leaves lanceolate-acute, sagittate; lobes lanceolate, acute, straight. Var. *latifolia*, leaves ovate, sub-acute, sagittate: lobes ovate, slightly acuminate, straight. Var. *major*, leaves large, abruptly acute: scape sub-ramose.. 1—2 f. *S.*

hastata, Ph. (W. w. Ju. 2ſ.) leaves lance-oblong, gradually acute, sagittate: lobes spreading, lanceolate, long-acuminate: scape simple: bracts and calyx roundish, obtuse. Var. *gracilis*, leaves linear, obtusish, sagittate; lobes spreading, elongated, linear. *S.* P. Y. T. C. F.

pubescens, M. (w. Au. 2ſ.) pubescent: leaves oblong-ovate, acute, sagittate; lobes ovate, acuminate, straight: scape simple: bracts roundish, pubescent. This species and the preceding one are probably nothing more than varieties of the very variable latifolia. *S.* P.

obtusa, W. (W. w. J. 2ſ.) leaves broad-ovate, round-obtuse, mucronate sagittate: lobes approximate, oblong, obliquely acuminate, straight: scape simple: bracts ovate, acute. Dioecious. *S.* P. C. K.

heterophylla, Ph. (O. w. Au. 2ſ.) leaves simple, linear and lanceolate, acute at both ends, or oval, acute, at the base obtuse, sagittate: lobes spreading, linear: scape simple, few-flowered: pistillate flower subsessile: bracts broad-ovate, acuminate. 8—12 i.

Saccharum. Lat. *saccharum*, from the Arabic *soukar*, from which in most languages the name for sugar has been derived.

Sagina. Lat. *sagino*, to cram or fatten, birds feeding upon plants of this order.

Sagittaria. Lat. *sagitta*, an arrow, the leaves presenting an evident analogy.

(1) latifolia, W.

rigida, Ph. (w. Ju. 2f.) leaves narrow-lanceolate, keeled below, rigid, very acute at both ends: scape ramose. Grows in deep water. C. Oswego, N. Y.

graminea, Mx. (1) (w. Ju. 2f.) leaves linear, long, 3-nerved: scape simple, few-flowered: bracts oblong, obtuse. P. Y. C. Canada.

simplex, Ph. (w. Ju. 2f.) leaves lance-linear, acute, narrow below: scape simple, many-flowered: bracts and calyx round, obtuse. Perhaps a variety of the last. *S.* Y.

acutifolia, Ph. (w. Ju. 2f.) leaves subulate, sheathed at the base, convex on the back: scape simple, few-flowered: bracts dilated, acuminate. P. Y. N. C. B. F.

pusilla, N. (Au. ☉.) leaves linear, obtuse, short; summits foliaceous: scape simple, shorter than the leaves: flowers few; pistillate ones solitary, deflected: stamens about 7. Leaves rarely subulate, about the twelfth of an inch wide. In mud. 1—3 i. T. Y. P. C.

natans, Mx. (w. Ju. 2f.) leaves floating, lance-oval, obtuse, 3-nerved, tapering to the base; lower ones sub-cordate; scape simple, few-flowered: lower peduncles elongated. *S.* P. Charleston, S. C. Florida.

lancifolia, (2) (w. J. 2f.) leaves broad-lanceolate, acute at each end, glabrous, coriaceous, somewhat perennial: scape simple: seed compressed, sub-falcate. 2—3 f. C. N.

1—1. SALICOR'NIA. 12. 29.

herbacea, (samphire, glasswort. L. Au. ☉.) herbaceous, spreading: joints compressed at the apex, emarginate-bifid. Var. *virginica*, has the branches undivided, and the jointed spikes very long. The fructification is very obscure, but it may be known by its leafless nearly cylindric jointed branches. It grows in salt marshes along the seaboard. 12—18 i. *S.* B. C. Onondaga salt springs. Salina.

mucronata, Bw. (dwarf samphire. L. Au. ☉.) low, herbaceous: joints quadrangular at the bottom, compressed and truncate at the top: spikes oblong, with mucronate scales. B.

ambigua, Mx. (L. Ju. 2f. ♄?) perennial, procumbent, branching: joint crescent-shaped, small: spikes alternate and opposite: calyx truncate. Y.

20—1. SA'LIX. 50. 99.

1. *Leaves entire, or obsoletely serrate.*

viminalis, Hn. (basket willow. y. Ap. ♄.) leaves lance-linear, very long, acuminate, entire, sub-undulated, white-silky beneath: glands scattered near the margin: stipules small: aments precede the leafing: scales almost round, very hairy: germs sessile, ovate; style filiform: stigmas acute, undivided. Introduced. *S.* B.

can'dida, W. (white willow. Ap. ♄.) leaves lance-linear, very long, obsoletely denticulate at the apex, pubescent above, white downy be-

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Salicornia. Lat. *sal, (salis)* salt, from the taste, and *cornu*, a horn, alluding to the shape of the branches.

Salix. Lat. *salio*, to rise or spring up, from their rapid growth, or from the Celtic *sal*, near, and *lis*, water, where many of the species grow. (1) graminifolia, M. (2) falcata, Ph.

neath; margin revolute: stipules lanceolate, about equalling the petioles: aments precede the leafing, cylindric: scales lance-obovate, down very long. 3—4 f. P. Catskill Mt.

muh'lenbergia'na, W. (1) (speckled willow. W. Ap. ♄.) leaves lanceolate, acutish, sub-entire, white-hairy, rugose-veiny beneath; margin revolute: stipules lanceolate, caducous: aments precede the leafing: scales oblong, with villose margins: germs lance-ovate, silk-villose, long-pedicelled: styles short: stigmas 2-cleft. Scale of the ament tipped with red. 3—5 f. S. P. N. T. C. D.

tristis, A. (mourning willow. W. Ap. ♄.) leaves lance-linear, acute at both ends, entire; margin revolute, smoothish above, rugose-veined and downy beneath: stipules none: aments precede the leafing, oblong. Resembles the last species. 3—4 f. S. P. Y. C. T. O. W.

recurvata, Ph. (shrub willow. W. A. Ap. ♄.) leaves lance-obovate, acute, entire; margin glandular, glabrous, glaucous beneath, in the young state silky: stipules none: aments precede leafing, recurved: scales black at the apex; hairs of the length of the germs: germs ovate, short-pedicelled, silky: style short: stigma 2-cleft. Probably a variety of S. *rosmarinifolia*. 2—3 f. P. T.

repens, W. (2) (creeping willow. J. ♄.) creeping: leaves lance-oval, entire, acute, glabrous, somewhat silky beneath: stipules none: aments precede the leafing, ovate; scales obovate, obtuse, hairy, sooty-yellow at the apex: germs ovate-oblong, pedicelled, pubescent: style short: stigma 2 lobed: capsules glabrous. Very small. Found on the Whitehills by Bigelow and Boott.

reticulata, W. (J. ♄.) creeping: leaves round-oval, obtuse, very entire, glabrous, net-veined, glaucous beneath: stipules none: aments flower after leafing, peduncled, diandrous: scales obovate, obtuse, pubescent; germs ovate, sessile, villose: stigma sub-sessile, 2-parted. From Labrador, with the next five species.

vestita, Ph. (J. ♄.) creeping: leaves roundish, entire, glabrous above, net-veined, covered beneath with very long, appressed, silky hairs: stipules none: aments flower after leafing, peduncled, linear, silky: germs ovate, sessile, villose: style deeply 2-parted: stigmas 2-cleft.

uva-ursi, Ph. (M. ♄.) depressed: leaves spatulate-obovate, obtuse, very entire; margin sparingly glandular below, glabrous, shining above: stipules none: aments flower after leafing, lax: scales oblong, ciliate: germs ovate, pedicelled, glabrous: style 2-parted: stigma 2-lobed. Resembles Arbutus uva-ursi.

cordifolia, Ph. (♄.) depressed; leaves oval, sub-acute, cordate at the base, very entire, net-veined, glabrous above, pale beneath: nerves and margin pilose beneath: stipules semi-cordate.

obovata, Ph. (M. ♄.) diffuse: leaves obovate, obtuse, very entire, glabrous above, silky-villose beneath: stipules none: aments flower at leafing time, sessile, oblong, diandrous: scales obovate, apex black, pilose. T. C.

planifolia, Ph. (♄.) erectish, divaricate: branchlets smooth: leaves lance-oblong, acute at each end, serrulate in the middle, very glabrous spreading, flat, discolored: stipules none.

prostrata, S. (♄.) leaves without stipules, obtusely dentate, oval-acute, glaucous-silky beneath: stem prostrate.

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(1) incana, Mx. tristis, M. alpina, W. (2) depressa, Hn. polymorpha, Eh.

pedicellaris, Ph. (stem-berried willow. Ap. ♄.) branchlets smooth: leaves lance-obovate, acute, entire, both sides glabrous, and colored alike: stipules none: aments flower at leafing time, peduncled, glabrous: scales oblong, scarcely pilose, but half as long as the pedicels: germs ovate-oblong, glabrous, with very long pedicels: stigma sessile, 2-cleft. N. T. Catskill Mt.

lambertiana, W. (Ap. ♄.) leaves nearly opposite, lance-obovate, acute, glabrous, sub-serrate at the apex, discolored: stipules none: aments precede the leafing: scales round, black: filament one: anthers two: germs sessile, oval-ovate, silky: style short: stigmas ovate, emarginate. Introduced? T.

rosmarinifolia, (rosemary willow. W. Ap. ♄.) leaves straight, lance-linear, acute at both ends, entire, sub-glandular at the margin, caducous-pubescent above, silky beneath: stipules narrow-lanceolate, erect: aments precede the leafing, ovate, recurved: scales oblong, obtuse ciliate: germs pedicelled, lanceolate, villose: stigma sub-sessile, 2-cleft. 3 f. *S.* P. D. T.

fuscata, Ph. (sooty willow. Ap. ♄.) leaves lance-obovate, acute, glabrous, sub-serrate, glaucous beneath, in the young state pubescent: stipules very narrow; aments precede the leafing, nodding: scales obtuse, scarcely hairy within; germs short pedicelled, ovate, silky: stigma sessile, 2-lobed. P.

2. *Leaves remotely and obtusely serrate.*

conifera, W. (1) (rose willow, cone-gall willow. W. Ap. ♄.) leaves lance oblong, remotely serrate, acute, glabrous above, flat and downy beneath, the first year's growth glabrous: stipules lunulate, sub-dentate: aments precede the leafing: scales lanceolate, obtuse, villose: germs pedicelled, lanceolate, silky: style 2 cleft: stigma 2-lobed. The scaly cones are mere excrescences or galls, caused by the stings of insects. 4—8 f. *S.* T. B. F. D. N.

myricoides, W. (gale leaf willow. W. Ap. ♄.) leaves lance-oblong, acute, 2 glands at the base, glabrous, glaucous beneath: stipules ovate, acute, glandular-serrate, aments flower at leafing time, villose, leafy at the base: scales lanceolate, obtuse, villose, dark-colored: germs long-pedicelled, lanceolate, glabrous: style 2-cleft: stigma 2-cleft. *S.* C. D. N.

prinoides, Ph. (Ap. ♄.) leaves oval-oblong, acute, remotely wave-serrate, glabrous, glaucous beneath: stipules half-cordate, gash-toothed: aments precede the leafing, villose; germs pedicelled, ovate, acuminate, silky: style long: stigma 2-cleft: 6—8 f. *S.* P. Y. W. T. F. N. D.

discolor, W. (bog-willow, red-root willow, basket willow. Ap. ♄) leaves oblong, obtusish, glabrous, remotely serrate, entire at the apex, glaucous beneath: stipules caducous, lanceolate, serrate: aments flower near leafing time, oblong, downy: scales oblong, acute, dark-colored, hairy: germs sub-sessile, lanceolate, downy: stigma 2-parted. *S.*

angustata, Ph. (W. Ap. ♄.) leaves lanceolate, acute, very long, gradually tapering to the base, serrulate, glabrous, both sides colored nearly alike: stipules half-cordate: aments precede the leafing, erect,

(1) eriocephala, Mx. longirostris, Mx, the elder.

smoothish: germs pedicelled, ovate, glabrous: style 2-cleft: stigma 2-lobed. Resembles *prinoides*. P. T.

longifolia, (W. long-leaf willow. W. M. ♄.) leaves linear, acuminate at both ends, elongated, remotely denticulate, glabrous, both sides colored alike: stipules narrow-lanceolate, denticulate: aments flower after leafing, peduncled, downy; scales flat, retuse: filaments bearded at the base, twice as long as the scales. 2 f. *S.* P. T. D.

3. *Leaves closely and acutely serrate.*

Remark. The first six of the following species have about 3 stamens to each flower.

babylo'nica, (weeping willow. W. M. ♄.) branchlets pendant: leaves lanceolate, acuminate, serrate, glabrous, upper and lower sides of different colors: stipules roundish, contracted: aments flower at leafing time: germs sessile, ovate, glabrous. Supposed to be the willow on which the Israelites hung their harps, when captive in Babylon. Introduced. *S.* T. P. C.

purshiana, Ph (1) (W. ♄.) leaves long, lance-linear, gradually tapering above, sub-falcate, acute at the base, close-serrate, glabrous both sides, in the young state silky: stipules lunulate, toothed, deflected. Branches very slender and brownish. *S.* P. C. N.

nigra, W. (2) (brittle-joint willow, black willow. W. M. ♄.) leaves lanceolate, acute at both ends, serrulate, same color both sides, glabrous; petioles and midribs downy above: stipules contracted, toothed, aments flower at leafing time, erect, cylindric, villose: scales oblong, very villose: filaments 3—5, bearded as the base, germs pedicelled ovate, glabrous; styles very short: stigma 2-cleft. 20 f. *S.* T. P. C. D. N. V. Florida.

lucida, W. (shining willow. W. M. ♄.) leaves ovate-oblong, cuspidate-acuminate, rounded at the base, serrate, glandular, glabrous both sides, shining: stipules oblong, glandular-serrate: aments flower in leafing time: scales lanceolate, obtuse, hairy at the base, serrate at the apex, glabrous: germs lance-subulate, glabrous: style 2-cleft: stigma obtuse. Size between shrub and tree. *S.* C. F. D. N.

rigida, W. (3) (stiff-leaf willow. Ap. ♄.) leaves lance-oblong, acuminate, sub-cordate at the base, rigid, glabrous, sharply serrate; lower serratures elongated: petioles villose: stipules broad-cordate, obtuse, glandular-serrate: aments flower at leafing time: scales lanceolate, dark-colored, woolly: germs long-pedicelled, lanceolate, glabrous: style very short: stigma 2-parted. Branches red towards the end, in the young state pubescent. Used also in basket-making. *S.* P. Y. T. W. N.

cordata, W. (heart-leaf willow. Ap. ♄.) leaves lance-oblong, acuminate, cordate at the base, sharply serrate, glabrous, paler beneath: stipules broad, round-ovate, cartilaginous-serrate: aments flower at leafing time: scales lanceolate, dark-colored, woolly: germs pedicelled, lanceolate, glabrous: style very short: stigma 2-cleft. 6—8 f *S.* P. T. W. F. N. V.

grisea, W. (4) (grey willow. W. Ap. ♄.) leaves lanceolate, acuminate,

(1) falcata, Ph. (2) caroliniana, Mx. pentandra, Wr. vulgaris, Clayton. (3) cordata, Mx. cordifolia, Banks. (4) sericea, M.

serrulate, glabrous above, downy on the midrib, silky or naked beneath: stipules linear, deflected, caducous: ament precedes the leafing: scales oblong, hairy, dark-colored at the apex: germ oblong, pedicelled, silky: stigma sessile, obtuse. Joints brittle at the base. 8 f. *S.* P. W. C. N.

alba, (M. ♄.) leaves lanceolate, acuminate, serrate, silky on both sides, lower serratures glandular: stipules obsolete: aments elongated, flowering at leafing time: scales lance-oval, one-colored, pubescent: germs sub-sessile, ovate-oblong, at length glabrous: style short: stigma 2-parted, thick. Introduced. *S.* C.

vitelli'na, (yellow willow. M. ♄.) leaves lanceolate, acuminate, thickly serrate, glabrous above, whitish-silky beneath: stipules none: aments flower in leafing time, cylindric: scales lance-ovate, both sides colored alike, pubescent without: germs sessile, lance-ovate, glabrous: stigma sub-sessile, 2-lobed. Middle size tree. Var. *alba*, has the leaves white-silky both sides, and very long aments. This variety is usually the tallest. *S.* T. P. C. F. N. B. V.

ambigua, Ph. (W. Ap. ♄.) leaves lanceolate, acuminate, glabrous, both sides of the same color, glandular-serrate: aments flower in leafing time: the pair of nectaries large, with lanceolate, deformed lobes, toothed at the apex, glabrous: the terminal florets have 3 stamens. Resembles the *vitellina*. Y. F.

descip'iens, Hn. (Ap. ♄.) leaves lanceolate, acuminate, serrate at each end, very glabrous, both sides colored alike: petioles glandular-toothed: stipules round: aments flower at leafing time: scales obovate, villose: staminate nectaries paired: germs sub-sessile, lanceolate, glabrous: stigmas sessile, 2-parted. Branches very brittle. Introduced. *S.* T.

petiolaris, W. (Ap. ♄.) leaves lanceolate, wholly serrate, smooth, glaucous-silky beneath, generally unequal at the base: stipules lunulate, toothed, small: aments precede the leafing, loose: scales obovate, obtuse, having black hairs: germs long-peduncled, ovate silky, stigmas sessile, 2-lobed. Y.

russeliana, W. (♄.) leaves lanceolate, acuminate, serrate, glabrous: aments flower in leafing time: florets generally with 3 stamens: germs pedicelled, subulate, smooth: styles elongated. Tall tree. Introduced.

myrsini'tes, W. (M. ♄.) leaves oval-ovate, wholly serrulate, both sides glabrous, shining and colored alike: stipules lanceolate serrate: branches rough: aments flower a little before leafing time, erect, cylindric; scales lance-oblong, long-villous, germs lance-ovate, sessile, silky: stigmas sub-sessile, 2-cleft. Labrador. 1 f.

herbacea, W. (A. Ju. ♄.) leaves round, sub-retuse, serrate, glabrous and shining on both sides: stipules none: aments flower after leafing, few-flowered: scales obovate, obtuse, villose: germs oblong-ovate, sub-sessile, glabrous: stigmas very short, sub-sessile. On the north-west coast. Smallest of all the species. 1 l.

eriocephala, Mx. (rose willow. Ap. ♄.) leaves oblong-oval, somewhat retuse at the base, serrulate: twigs downy: aments oval, very villose. Probably a variety of *conifera*. Diandrous. C.

Southern.

houstoniana, Ph. (♄.) leaves lance-linear, acute, finely serrate, gla-

brous, shining, one-colored: stipules none: aments flower at leafing time, cylindric, villose: scales ovate, acute: filaments 3—5, bearded to the middle.

5—2. Salso'la. 12. 29.

kali, (salt-wort. L. Ju. ☺.) herbaceous, decumbent: leaves channelled, spinose: calyx margined, axillary. Var. *caroliniana*, leaves dilated, shorter, terete, nerveless, spinose: stem smooth or hairy: calyx with a broader margin. Seed cochleate. *S.* B. C.

tragus, (L. Ju. ☺.) herbaceous, spreading, smooth: leaves subulate, fleshy, mucronate-spinous: flowers sub-solitary: calyx sub-ovate, margin flattened, discolored. Y.

soda, (L. ☺.) herbaceous, smooth: branches ascending: leaves semiterete, acutish: fruit-bearing calyx transversely carinate in the middle, sub-membranaceous. Y.

Salsola, Chenopodium.

2—1. Sal'via. 42. 42.

urticifolia, (nettle sage. A. b. J. 2ſ.) villose-viscous: leaves ovate-oblong; toothed, decurrent along the petiole: calyx 3-toothed; upper segment 3-toothed. *S.* Y.

lyrata, (wild sage, cancer weed. W. b. M. 2ſ.) radical leaves lyrate, toothed: upper lip of the corol very short: stem nearly lefless, reverse-hairy. Var. *obovata*, has the leaves obovate, repand. 1—3 f. *S.* P. Y. Canada. Florida.

claytoni, E. (1) (vervain sage. W. b-p. J. 2ſ.) leaves heart-ovate, sinuate, toothed, rugose: teeth of the upper lip of the calyx connivent. 1 f. *S.* K.

Exotic.

officinalis, (sage. b. J. 2ſ. or ♄.) leaves lance-ovate, crenulate: whorls few-flowered: calyx mucronate.

selara, (clarry. ♂.) leaves rugose, cordate, oblong, villose, serrate: floral bracts longer than the calyx, concave, acuminate.

Southern.

azured, Lk. (2) (b. w. Au. 2ſ.) leaves lance-linear; lower ones serrate: stem and leaves smooth: calyx pubescent, short-3-cleft. 4—6 f.

coccinea, (r. Ju. 2ſ.) leaves cordate, acute, tomentose, serrate: corol twice as long as the calyx and narrower. 1—2 f.

trichostemmoides, Ph. (W. b. ☺.) leaves lanceolate, serrate: racemes terminal: flowers opposite: corol equal to the 3-cleft calyx: stem brachiate-branched.

obovata, E. (Ju.) leaves large, obovate, toothed, pubescent: whorls 6-flowered. 18 i.

Salsola. From Lat. *salsus*, salt.

Salvia. Lat. *salvo*, to save, from its medical properties.

(1) verbenaca, M. (2) acuminata, M. angustifolia, Mx. mexicana, Wr.

21—1. Salvi'nia. 55. 5.

natans, (1) (W. ☉.) leaves oval, obtuse, with fascicled bristles above: petioles pilose: fruit sub-sessile, aggregate.

5—3. Sambu'cus. 43. 58.

canadensis, (black-berried elder. O. w. J. ♄.) branchlets and petioles glabrous: leafets about in 4 pairs, oblong-oval, glabrous, shining, acuminate: cyme lax, divided into about 5 parts. 8—15 f. *S.*

pubescens, Ph. (2) (red-berried elder. W. A. w. M. ♄.) bark warty: leafets in 2 pairs, lance-oval, pubescent beneath: flowers raceme-panicled, or in a crowded bunch. 6—12 f. *S.* T. N. C. O. F. V.

5—1. Samo'lus. 21. 35.

valeran'di, (brookweed, water pimpernell. w. Ju. 2ſ.) leaves obovate: racemes elongated: pedicels bracted near the middle. Damp. 8—12 i. *S.* O. P. Y. C. N. T. F. B.

Southern.

ebracteatus, Kunth. (W. w. 2ſ.) stem short, robust, smooth, divided at the base: leaves obovate, obtuse, somewhat fleshy, attenuate at the base: racemes elongated, sub-pubescent: pedicels filiform, without bracts.

12—1. Sanguina'ria. 27. 62.

canadensis, (blood-root. O. w. Ap. 2ſ.) leaves sub-reniform, sinuate-lobed: scape 1-flowered. A variety, *stenopetala*, has linear petals. 6—10 i. *S.*

4—1. Sanguisor'ba. 54. 92.

canadensis, (burnet saxifrage. w. Ju. 2ſ.) flowers in a long cylindric spike: stamens several times longer than the corol. The leaves resemble the burnet. 3—5 f. *S.* T. Y. P. N. B. C. O.

media, (great burnet, A. r-w. Ju. 2ſ.) spikes cylindric: stamens a little longer than the corol: spikes shorter, tinged with red. Ph. A doubtful species. T. *S.* P. Canada.

5—2. Sanic'ula. 45. 60.

marylandica, (sanicle. O. w. J. 2ſ.) leaves digitate; leafets oblong, gashed: part of the flowers are fertile, sessile and sub-ternate; the

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Salvinia. In honor of Salvini, Professor of Greek, at Florence.

Sambucus. Gr. *sambuke*, Heb. *sabucca*, an instrument of music, supposed to have been made of this plant.

Samolus. From *Samos*, an island in the Archipelago, whence first obtained; or from the Celtic words *san*, salutary, and *mos*, pig, having been used as a general remedy in diseases of swine.

Sanguinaria. Lat. *sanguis*, *inis*, blood, from the color of its juice.

Sanguisorba. Lat. *sanguis*, blood, and *sorbeo*, to absorb, from its having been used as vulnerary.

Sanicula. Lat. *sano*, to heal, having been formerly celebrated for its healing qualities.

(1) Marsilea, L. (2) pubens, Mx.

others are barren, pedicelled, and the most numerous. Var. *canadensis*, leaves sub-ternate; leafets ovate, coarsely toothed. 2—3 f. *S. canadensis*, L. (2f.) leaves all cut-palmate; segments petioled; divisions gash-serrate; lateral ones two-parted: flowers polygamous; staminate ones shortly pedicelled: lobes of the calyx entire. Canada.

menziesii, H. ( ) caulescent: leaves longly petioled, cordate, deeply trifid; segments broad-ovate, cuneate, variously lobed, gash-serrate, serratures very acute, mucronate-ciliate: umbels sub-compound; leafets of the involucels lanceolate, acute, equalling the umbel. 1—2 f. A.

arctopioides, H. ( ) somewhat stemless; leaves longly petioled, deeply 3-parted; divisions elongated-cuneate; lateral ones bifid, intermediate trifid: all sub-ciliate-pinnatifid: peduncle scarcely longer than the leaves: leafets of the involucre foliaceous, lanceolate, very entire, longer than the simple, compact umbel. A.

bipinnatifida, Doug. ( ) caulescent: lower leaves bipinnatifid; longly petioled; segments remote, obovate, or lance-obovate, acute, gash-serrate; serratures very acute: rachis very acutely dentate: peduncles elongated: umbels compound, sub-proliferous; umbellets globose. R.

Southern.

triclinum, Dc. (g. 2f.) leaves longly petioled, glabrous, cut-3-parted; segments oblong, unequally dentate, lobed at the apex; radical ones sub-palmate; lateral ones two-parted; flowers all perfect. Louisiana.

17—1. SANTOLI'NA. 49. 55.

Southern.

suaveolens, Ph. (lavender cotton. W. y. J. ☺.) glabrous: stem corymb-branched: leaves sub-bipinnatifid; divisions acute, linear; peduncles terminal, 1-flowered. Sweet scented.

8—3. SAPIN'DUS. 23. 65.

Southern.

saponaria, (w. ♄.) leaves glabrous, abruptly pinnate; leafets lance-oval, 3 and 4-petioled: rachis broad-winged: fruit spherical. 20—30 f.

marginatus, (♄.) unarmed: rachis narrow; margined above: leafets lanceolate, 6-paired: fruit sub-conical. Georgia.

10—2. SAPONA'RIA. 22. 82.

Exotic.

officinalis, (soapwort, bouncing bet. w. J. 2f.) calyx cylindric; leaves

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Santolina. Supposed from *santalum*, saunders, it smelling like the saunders wood; or to be the diminutive of *sancta*, a holy little herb, in allusion to some reputed virtues.

Sapindus. From Lat. *sapo indus*, Indian soap, the rind of the fruit being used as soap.

Saponaria. Lat. *sapo*, soap, its bruised leaves being said to produce a lather.

lance-ovate, opposite, sub-connate, entire. Probably introduced, and naturalized. 10—18 i.

vaccaria, (field soapwort. r. Au. ☉.) calyx 5-cornered, cone-ovate: leaves ovate, acuminate, sessile. Naturalized. 6—18 i. W.

5—3. SARO'THRA. 20. 68.

gentianoides, L. (1) (nit-weed, false john's wort, orange grass, pine weed. p. y. J. ☉.) small, erect, setaceous-ramose: leaves minute, close-pressed: flowers on the branchlets alternate, solitary. 4—8 i. S. T. Y. C. B. P. H. M. F. N.

12—1. SARRA'CENIA. 54. 62.

purpurea, (side-saddle. O. p. J. 2ſ.) leaves radical, short, gibbose-inflated or cup-form, contracted at the mouth, having a broad arched lateral wing; the contracted part of the base hardly as long as the inflated part. Scape with a single, large nodding flower. In marshes. 1—2 f. S.

heterophylla, Ea. (y. J. 2ſ.) leaves radical: outer ones long-funnel-form, not contracted at the mouth, having a narrow straight lateral wing; the contracted part at the base about twice as long as the inflated part; the inner leaves short, gibbose-inflated, contracted at the mouth, having an arched lateral wing, the contracted part at the base hardly as long as the inflated part: style longer than the filaments. The whole plant palish yellow, and very slender. Intermediate between purpurea and flava. In swamps at Northampton, Mass. 12—30 i. A remarkably distinct species, but very rare.

Southern.

rubra, Wr. (2) (r-p. J. 2ſ.) leaves slender; lateral wing linear; appendage ovate, erect, obtuse, mucronate, contracted at the base. 6—10 i.

flava, Mx. (y. J. 2ſ.) leaves large, funnel-form; throat expanding: lateral wing nearly wanting; appendage erect, contracted at the base, reflexed at the sides. 18—24 i.

catesbæi, E. (2ſ.) leaves stiffly erect; tube funnel-form: lateral wing linear; throat straight; appendage erect, sub-reniform, reticulate with colored veins. 12—18 i.

variolaris, Mx. (3) (y. J. 2ſ.) leaves slightly ventricose, with the tube near the summit spotted on the back; appendage arched, incurved: lateral wing slightly dilated. 12—18 i. Charleston, S. C.

13—1. SATURE'JA. 42. 42.

Exotic.

hortensis, (summer savory. b-w. Ju. ☉.) peduncles axillary, somewhat in a cyme: leaves lanceolate, entire: stem brachiate.

Sarothra. Gr. *sarothron*, a broom, from a fancied resemblance in the habit of the plant.

Sarracenia. In honor of Dr. Sarrazin, an ingenious Frenchman, who introduced many rare plants into France.

Satureja. From Arabic, *ss'atar*, the name given to labiate, aromatic plants.

(1) hypericoides, N. Hypericum sarothra, Mx. (2) psyttacina, Mx. (3) minor, Wr. aduncа, S.

montana, (winter savory, ♄.) peduncles somewhat 1-sided: segments of the calyx acuminate, mucronate: leaves mucronate.

Satyrium, NEOTTIA, GOODYERA.

7—4. SAURU'RUS. 2. 98.

cernuus, (lizard's tail, breast weed. W. Au. 2ℓ.) stem angular, sulcate: leaves alternate, heart-oblong, acuminate. Rare in New York east of Cayuga Lake—abundant west of it. 1—2ℓ. O. P. H. F. Y. C. D. Canada.

17—1. SAUSSU'REA. 49. 51.

alpina, Dc. ( ) leaves lanceolate, dentate woolly beneath; radical ones lance-ovate, petioled: flowers corymbed, crowded: scales of the involucre oblong, villose above. Var. *densa*, stem sub-decumbent: leaves sub-glabrous, dense, almost all narrow-lanceolate corymb glomerate. Var. *remotifolia*, stem erect, striate: leaves glabrous, rigid, narrow-lanceolate; upper ones minute. R.

monticola, Rich. ( ) sparingly woolly: leaves linear, very entire: leafets of the involucre oblong-cylindric, villose, lanceolate, acute. A.

10—2. SAXI'FRA'GA. 13. 84.

1. *Leaves radical, undivided: stem nearly naked.*

aizo'on, W. (W. 2ℓ.) leaves aggregate, spatulate, acutish glabrous, with cartilaginous teeth: stem simple, leafy, pilose: calyx glabrous. 3 i.

stellaris, W. (w. Ju. 2ℓ.) leaves wedge-form, serrate, pilose at the margin: stem simple, naked: petals acute: capsule superior. Labrador.

serpyllifolia, Ph. (W. 2ℓ.) erect: leaves small, oval, glabrous: stem 1-flowered, few-leaved: petals obovate.

androsa'cea, Ph. (W. w. 2ℓ.) pubescent: leaves petioled, linear-spatulate: stem leafy, 1—2-flowered.

bronchialis, W. (W. 2ℓ.) stoloniferous: leaves imbricate, subulate, flat, mucronate, spinose, ciliate: stem nearly naked, panicled. *S.*

nivalis, (alpine saxifrage. W. w. J. 2ℓ.) leaves roundish-wedge-form, crenate before, decurrent into the petiole: stem naked, simple, racemes crowded. 2 i.

virginiensis, Mx. (1) (rock saxifrage. O. w. M. 2ℓ.) minutely pubescent: leaves oval, obtuse, crenate, decurrent into the petiole: flowers sub-sessile on the dichotomous branches of an almost leafless scape. 1—15 i. *S.*

geum, W. (W. 2ℓ.) leaves reniform, toothed, veinless and pilose on both sides: stem naked, panicled.

Saururus. Gr. *saura*, lizard, and *oura*, tail, from the shape and scaly appearance of the long spike of flowers.

Saxifraga. Lat. *saxum*, rock, and *frango*, to break, from their insinuating themselves into the crevices of rocks and breaking them.

(1) nivalis, M. vernalis, Bw. virginica, N.

pennsylvanica, (water saxifrage. O. g-w. J. 2ℓ.) pubescent: leaves lance-oblong, acute, tapering to the base, obsoletely denticulate; scape leafless, panicle oblong, with fascicled branches at the top. 1—4 f. S.

laurentiana, Dc. (2ℓ.) radical leaves long petioled reniform, 5—7-lobe-crenate, glabrous: stems and peduncles with strong hairs: flowers few, sub-capitate: bracts 3—5 lobed: calyx shorter than the corol. Canada.

leucan'themifo'lia, Mx. (A. w. r. y. Ju. 2ℓ.) very hirsute: stem somewhat naked: leaves elongated-spatulate, acutely toothed: stems divaricate dichotomous: panicle capillary, lax, calyx reflexed: petals unequal. 18—24 i.

erosa, Ph. (A. y-g. Ju. 2ℓ.) nearly glabrous: stem naked: leaves lance-oblong, acute, erose-dentate: panicle oblong, branches divaricate, very branching, lax-flowered: pedicels filiform.

james'ii, T. (W. p.) leaves reniform, crenate-toothed, papillose-punctate on both sides, nearly glabrous: stem short, few-flowered: divisions of the calyx triangular-ovate, acute, glandular-pubescent: petals orbicular with long claws. 1—2 i.

fimbriata, Don. (1) (2ℓ.) canescent: floral heads very crowded, spherical: peduncles solitary, one-flowered, naked, an inch long: sepals ovate, obtuse, ciliate at the margin: leaves appressed imbricate, orbiculate-obovate, with membranaceous and ciliate margins, long-fimbriate. 1 i. A.

semi-pubescens, Sweet. (y. 2ℓ.) root furnished with long, thick fibres: leaves not petioled, oblong-oval obtuse, very glabrous, denticulate: flowers pedicelled, disposed in dense corymbs: calyx pilose-glandulous; sepals triangular-ovate, acute: petals ovate, obscurely three-nerved, somewhat equalling the calyx. Maryland. Cultivated.

arguta, Don. (2ℓ.) scape glabrous: panicle very simple: leaves reniform-rotund, gash-serrate, glabrous: petioles filiform: sepals oblong, acute: petals ovate, many-nerved: pistils very short.

nelsoniana, Don. (w. 2ℓ.) sub-cespitose: scape very simple, covered on all sides with long soft hairs: thyrse ovate: leaves orbiculate-cordate, sub-peltate, gash-serrate, hirsute beneath: petioles very long, filiform: sepals triangular-ovate, acute: petals oval, small. A.

nutans, Dc. ( ) cespitose: stem one-leaved: raceme nodding, few-flowered: leaves radical, reniform, longly petioled, coarsely gash-toothed, bearing short, rigid close-pressed hairs: short pedicels and calyx pilose-glandulous: lobes of the calyx lanceolate acute, three-nerved: petals obovate, three-nerved, nerves flexuose, very branching. A.

reflexa, H. ( ) hoary-pubescent: leaves ovate, sub-coriaceous, opake, gash-serrate, attenuated into the petiole: scape naked: panicle very glabrous, compact, corymbose: petals obovate, bimaculate, scarcely twice as long as the reflexed, obtuse calyx: filaments many, abortive, dilated, petaloid: ovarium free. A.

integrifolia, H. ( ) whole plant very viscid-pubescent: leaves radical, ovate, submembranaceous, very obtuse, very entire or very smoothly sinuate-crenate: copiously reticulate-veined: scape elongated, naked, panicled at the apex: panicle lax, broad or contracted, bracted: petals obovate, twice as long as the spreading, very glabrous,

(1) eschscholtzia, Sternb.

at length sub-reflexed calyx: stamens short: ovarium entirely free: styles diverging. 8—10 i. R.

hieracifolia, Dc. (r.) scape stiffly erect, sub-pilose: leaves petioled, obovate-spatulate, repand-toothed, ciliate, coriaceous: flowers spiked: subsessile: lobes of the calyx ovate, broad, of the length of the tube: petals ovate, reddish, withering, scarcely equalling the calyx: filaments purple: capsule prominent, purple: carpellae divaricate at the apex: styles very short: stigmas sub-hemispheric. A.

dahurica, Pall. ( ) very glabrous: leaves wedge-fanform, decurrent into the petiole, deeply gash-toothed above: scape leafless, lax-panicled, bracted: bracts linear, very entire: petals bi-punctate, obovate, somewhat twice as long as the reflexed calyx: filaments often petaloid. R. A.

foliolosa, Br. ( ) leaves radical, cuneate sub-dentate: scape divided, branches one-flowered at the apex, beneath covered with dwarf fasciculate leafets: calyx below obovate: divisions of the petals cordate-lanceolate. A.

punctata, L. ( ) leaves radical, longly petioled, reniform-cordate, rotund, membranaceous, pilose, reticulate, deeply, coarsely and equally dentate, not margined: teeth entire, parted, often acute: scape naked: flowers small, panicled; panicle glandulous, bracted: bracts minute, linear, filaments very often abortive, petaloid: calyx reflexed. A. R.

hetarantha, H. (2[.) sub-pubescent: leaves radical, longly petioled, reniform-cordate, membranaceous, veiny, many-lobed; lobes shortish, somewhat 3-toothed: teeth acute, beardless: scape naked: flowers panicled, often abortive: some filaments clavate, others petal-form: ovarium free: calyx reflexed: branches often bulbiferous below. 9 i. R.

2. *Leaves undivided: stem leafy.*]

oppositifolia, W. (p. M. 2[.) cespitose: leaves cauline, opposite, imbricate, ovate, obtuse; upper ones ciliate: flowers terminal, solitary, sessile. Labrador.

aizoides, W. (y. 2[.) decumbent, cespitose: leaves cauline, linear, alternate, tooth-ciliate: panicle few-flowered: petals as long as the calyx.

setig'era, Ph. (1) (W. w. 2[.) pubescent: leaves radical, aggregate, spatulate, acute, spinose-ciliate: stem leafy, about 2-flowered: calyx hispid: very long setaceous twigs in the axils of the leaves.

hirculus, ( ) leaves cauline, alternate, lanceolate, naked, unarmed: stem erect. North Somerset.

exarata, V. (2) ( ) cespitose: leaves 3—5-cleft; upper ones linear, entire, glandulous-pubescent; segments linear, acutish: flower-bearing stem slender, scarcely leafy, 3—5-flowered: flowers corymb-racemed: ovarium adhering to the tube of the pubescent calyx: petals obovate, 3-nerved, scarcely twice as long as the calyx. R.

sileniflora, Cham. ( ) stem cespitose, stoloniferous, short: leaves rigid, in dense bunches of 3's, 5's and 7's, very shining as if varnished, many-nerved, hirsute-pubescent; segments linear, acutish: stem floriferous, elongated, pubescent-glandulous, panicled above:

(1) flagellaris, Sternb. (2) nervosa, Lapeyr.

flowers largish: ovarium adhering to the tube of the glandular-pubescent calyx; segments obtuse: petals obovate, 3-nerved, twice as long as the calyx. A.

petræa, Lin. (☉.) glandulous-pilose: leaves fleshy 3-lobed; radical ones cordate: lobes gashed, somewhat longly-petioled; cauline ones sub-cuneate: upper ones undivided: peduncles and ovaria glandulous-hispid below: divisions of the calyx oblong, erect: petals obovate, retuse. R.

ranunculifolia, H. (w.) sub-glandulous-pubescent: slender: lower leaves very longly petioled, reniform, three-parted: segments broad-cuneate, gash-lobed: cauline ones few: flowers corymbed, pentandrous: petals obovate, twice as long as the acute-glandulous calyx. R.

richardsonii, H. ( ) stem glandulous, leafy, pubescent above: leaves longly petioled, orbicular-cordate, crenate-lobed, veiny, margin and veins glandulous beneath: glands pedicelled: raceme compound, somewhat spike-form: lanceolate bracts and pedicels glandulous: petals obovate-elliptic, short-unguiculate, very acute nerved: about twice as long as the acuminate segments of the calyx: stamens 5. A.

3. *Leaves lobed.*

rivularis, S. (w. J. 2ℓ.) erect: leaves petioled, palmate, upper ones spatulate: stem few-flowered: root fibrous: germ half inferior. Labrador. A. R.

siberica, W. (w. 2ℓ.) ascending: leaves reniform, palmate, pilose; cauline ones sessile: petioles hirsute; pedicels very long, filiform, 2-cleft, naked. Labrador.

pectinata, Ph. (W. 2ℓ.) cespitose: stems numerous, leafy: leaves 3-lobed; lobes 3-cleft, linear, acute, glabrous: midrib furrowed: flowers racemed.

cæspitosa, W. (W. y. J. 2ℓ.) leaves radical, aggregate, fleshy, linear, obtuse, entire or 3-cleft, nerved beneath: stem erect, nearly naked, few-flowered: petals twice as long as the calyx. Var. *grænlandica*, leaves cauline, palmate, many-cleft: divisions acute.

tricuspidata. W. (w. J. 2ℓ.) leaves radical, aggregate, wedge-form, ciliate, acutely 3-toothed: stem ascending, racemed: petals lanceolate, thrice as long as the calyx. Hudson's Bay.

cernua, (A.) leaves cauline, palmate, petioled: stem very simple, 1-flowered, bulbiferous.

mixta, P. (A.) leaves digitate, (3-cleft,) minutely nerved, sub-hirsute: anthers sagittate: stigma hooded, reflexed: stem sub-viscous, 2—3-flowered. Is this a variety of *cæspitosa*?

nudicaulis, Don. (w. 2ℓ.) scape erect, naked, terete: leaves reniform, palmate, glabrous: lobes ovate, mucronate: flowers panicled: lobes of the calyx triangular-ovate, acute: petals obovate, a little longer than the calyx. A.

Exotic.

sarmentosa, (beef-steak, creeping saxifrage. w. Au. 2ℓ.) leaves roundish, toothed, hairy: sending off creeping shoots: 2 petals in each flower elongated.

4—1. Scabio'sa. 47. 56.

Exotic.

stellata, (star scabious, cats eye. y-w. ☉.) corol 5-cleft, radiate: leaves cut and jagged: outer crown of the seeds orbicular, large, spreading, membranaceous, many-nerved.

atropurpurea, (sweet scabious. r. 2ſ.) corol 5-cleft, radiating: leaves pinnatifid and cut: receptacle cylindric: outer crown of the seed short, lobed and crenate.

Scandix, Uraspermum.

6—3. Scheuchze'ria. 5. 7.

palustris, (less flowering rush. g-y. M. 2ſ.) stem glabrous: leaves semi-cylindric, sheathing at the base; each having a lateral pore on the inner side, immediately below the cartilaginous tip. In ponds and marshes. 1 f. P. T. V.

21—1 Schizæa. 55. 5.

pusilla; Ph. (one sided fern. Ju. 2ſ.) frond simple, linear-compressed: spikes conglomerate, inflexed, one way. The only known locality of this interesting little fern is near Quaker-bridge, New-Jersey, in a swamp. 3—6 i. Y.

19—5. Schizan'dra. 11. 77.

Southern.

coccinea, Mx. (r. & y. M. ♄.) glabrous: leaves alternate, lanceolate, sub-denticulate, petioled, sometimes sub-cordate. Climbing. 10—15 f.

3—1. Schœ'nus. 3. 9.

mariscoides, M. (water bog rush. Ju. 2ſ.) culm terete or sub-sulcate, leafy: leaves channeled, semi-terete: umbel terminal: fascicles of spikes three on each peduncle: seed naked, rounded at the base. 2 f. P. Y.

Southern.

hispid'ulus, Vahl. ( ) peduncles axillary and terminal, 3-spiked: spikes globose, pedicelled: leaves filiform, hispid.

effusus, Sw. (saw grass. Au.) culm leafy, obtusely 3-angled: leaves prickly forwards: panicle terminal, very long, diffuse: seed ovate, longitudinally wrinkled. 6—10 f.

Scabiosa. Lat. *scabies*, itch, from its sudorific qualities and supposed efficacy in cutaneous diseases.

Scheuchzeria. In honor of two brothers, Scheuchzer, distinguished botanists.

Schizandra. Gr. *schizō*, to split, and *anēr*, a stamen, because the stamens are nearly separted by fissures in the receptacle.

Schizæa. Gr. *schezo*, to cleave asunder, in allusion to the cloven appearance of the spikes.

Schoenus. Gr. *schoinos*, a cord, given as a name to a rush, of which cords were made.

Schœnus, RHYNCOSPORA.

3—1. SCHOL'LERA. 6. 17.

graminifolia, W. (1) (yellow-eyed water grass. O. y. Ju. 2f.) leaves all linear, grass-like: stem slender, floating. 6—18 i.

15—10. SCHRANK'IA. 33. 93.

Exotic.

sensitiva, (2) (sensitive plant.) prickly: leaves pinnate; leafets in pairs, inmost ones minute.

Southern.

uncinata, (3) (sensitive briar. p. Ju. 2f.) stem prostrate angled, prickly: leaves alternate, abruptly bipinnate: leafets small, sub-oval, gibbous at the base, thinly pilose, irritable. 2—3 f.

Schubertia, CUPRESSUS.

13—2. SCHWAL'BEA. 40. 40.

americana, W. (chaff seed. p-y. J. 2f.) simple, pubescent: leaves lanceolate: racemes terminal: flowers alternate. 2 f. *S.* Y.

Schweinitzia, MONOTROPSIS.

6—1. SCIL'LA. 10. 16.

Exotic.

maritima, (squill. w.) scape long, naked, many-flowered: bracts bent back. Root bulbous.

Scilla, PHALANGIUM.

3—1. SCIR'PUS. 3. 9.

1. *Seed surrounded with bristles at the base.*

(Style articulated to the seed: base dilated and persistent. Seed often lenticular. ELEOCHARIS. Br.)

tenuis, W. (4) (club rush. O. Ju. 2f.) culm very slender, quadrangular:

Schollera. In honor of Frederick Adam Scholler, a teacher at the Moravian College in Germany.

Schrankia. In honor of Francis Schrank, Prof. of Botany, at Ingolstadt and Landsheet.

Schwalbea. In honor of Christian Schwalbe, a German botanist.

Scilla. Gr. *skullō*, to injure, its root being as well a poison as a medicine; or from *asgil*, the Arabic name of the root.

Scirpus. Lat. *scirpus*, a rush. De Theis derives it from Celt. *cirs*, a reed or rush.

(1) Leptanthus gramineus, Mx. Heteranthera, Ph.

(2) Mimosa, 4th ed. (3) Mimosa horridula, Mx. intsia, Wr.

(4) marginatus, M. E.

spike oval, acute at each end: glumes ovate, obtuse: stamens 3: styles 3-cleft: seed rugose. 8—12 i. *S.*

glaucus, T. (L. Ju. 2ℓ.) culm many-angled, glaucous: spike ovate, acute: glumes ovate, obtuse or emarginate: stamens 3: styles 2-cleft. 1 f.

palustris, (marsh club rush. W. J. 2ℓ.) culm round, inflated: spike lance-oblong: glumes somewhat obtuse: seed roundish, punctate, rugose: bristles scabrous. 18—24 i. *S.* P. Y. B. C. N. D.

capitatus, (W. Ju. 2ℓ.) culm terete or sub-compressed: spike ovate, obtuse; seed oval, compressed, smooth. *S.* B. P. O. F. N.

acicularis, (1) (W. Ju.) culm setaceous, quadrangular: spike ovate, acute, 3—6-flowered: glumes somewhat obtuse: stamens 3: styles bifid: seed obovate. 3—6 i. *S.* B. P. C. O. F. N.

pusillus, Vahl. (L. Au.) culm compressed and sub-angular: spike ovate, compressed: seed obovate: stamens 3: style 2—3-cleft. 1 i. *S.* C. N.

intermedius, M. (W. S.) culms cespitose, quadrangular, sulcate: spikes ovate, oblong, glumes acutish: stamens 3: style 2-cleft: seed broad-obovate, compressed: tubercle distinct. 3—4 i. W. Y. P. N.

planifolius, M. (J) culm triangular: radical leaves linear, flat, nearly equalling the culm: spike terminal, oblong, compressed, shorter than the cuspidate bracts at the base. 8 i. P. W. N. V. B.

subterminalis, T. (Au.) culm floating, sulcate, inflated, leafy below: spike solitary, somewhat terminal, lanceolate: style 2-cleft: seed 3-angled. 3 f. N.

cæspitosus, (scaly rush. Ju.) culms cespitose, terete: spikes ovate, few-flowered: lower glumes bract-like as long as the spike: sheaths with rudiments of leaves. Var. *callosus*, glumes thickened and cartilaginous at the tips. 8 i. N.

(Style filiform, not bearded, caducous. SCIRPUS. L. Br.)

americanus, P. (2) (W. Au.) culm nearly naked, 3-angled, sides concave spikes lateral, 1—5, ovate, conglomerate, sessile: glumes round-ovate, mucronate: seed 3-angled, acuminate. One variety has 3—5 spikes nearly terminal; another has generally a solitary spike remote from the extremity of the culm. 3—5 f. *S.* B. C. F. N. K.

debilis, M. (Au.) culm cespitose, deeply striate: spikes about 3, lateral, ovate, sessile: glumes ovate, obtuse, mucronate. 8—12 i. *S.* P. Y. B. C. N.

lacustris, (3) (W. J.) culm terete, attenuated above, naked: panicle sub-terminal: spikes peduncled, ovate. 4—8 f. *S.* P. C. O. F. N. T. K.

acutus, M. (Ju.) culm terete, (not attenuated,) spotted: peduncles numerous, sub-lateral: spikes oblong: glumes pubescent, mucronate. 4 f. P. Y. T. B. C.

atrovirens, M. (W. Ju.) culm triangular, leafy: cyme terminal, compound, proliferous: involucre 3-leaved: spikes conglomerate, ovate, acute: glumes ovate, mucronate, pubescent. 2 f. P. M.

brunneus, M. (4) (Au.) culm leafy, obtusely triangular: cyme decom-

(1) trichodes, M. E. capillaceus, Mx. pussillus, Ph.
(2) triqueter, Mx. (3) validus, Vahl. Ph. (4) exaltatus, Ph.

pound: involucre 3—4-leaved: spikes round-ovate, clustered in heads of about sixes: glumes ovate, obtuse. 2—3 f. *S.* P. Y. C. N.

macrostachyus, M. (1) (W. L. Au.) culm triangular, leafy: corymb clustered; involucre about 3-leaved, very long: spikes oblong: glumes ovate, 3-cleft: middle segment subulate and reflexed: style 3-cleft. 3—4 f. *S.* B. C. T. Peekskill.

pendulus, M. (2) (J.) culm triangular, leafy: leaves striate, margin scabrous: spikes oblong-cylindrical, solitary: glumes 1-valved, imbricate, acuminate, ovate, white: seed 3-sided; pistil 3-cleft. 3 f.

(Style filiform, caducous. Bristles much longer than the seed. TRICHOPHORUM. P.)

eriophorum, Mx. (3) (red cotton grass. O. Au. 2[.) culm obtusely triangular, leafy: panicle decompound, proliferous, nodding: spikes all peduncled: bristles surrounding the seed, exsert. 4—5 f. *S.*

lineatus, Mx. (W. Au.) culm 3-angled, leafy: panicles terminal and lateral, decompound, at length nodding: involucre 1—2-leaved: spikes ovate: glumes lanceolate, somewhat carinate: bristles longer than the seed. 2—3 f. *S.* M. N.

2. *Seed naked at the base.*

(Style simple at the base, not articulated to the seed, caducous. ISOLEPSIS. Br.)

subsquarrosus, M. (4) (Au. 2[?) culm triangular, nearly naked, incurved; spikes 3, nearly terminal, ovate: glumes somewhat squarrose at at the top: involucre 2-leaved, very long, unequal. 2 i. *S.* P. C. N.

capillaris, (5) (W. Au. ☉.) culm nearly naked, 3-angled, capillary: spikes ovate, 2—3 of them peduncled, with an intermediate sessile one. 8 i. *S.* P. C. N.

autumnalis, (W. Au. 2[.) culm compressed, ancipitous: umbel compound: involucre 2-leaved: spikes lanceolate, acute, somewhat 4-sided. 8—12 i. *S.* N. Peekskill.

Southern.

simplex, E. (W. J. 2[.) culm terete: spike somewhat ovate: glumes obtuse: seed obovate, 3-angled. 8—13 i.

filiformis, Vahl. (Au.) spike cylindric, oblong, obtuse: scales roundish: seeds naked at the summit: culm filiform.

geniculatus, Vahl. (Ju.) spike ovate-oblong: scales round-ovate: culm terete, growing in distinct clusters.

tuberculatus, Mx. (Au.) culm terete, striate: glumes very obtuse, loose, appressed: seed somewhat 3-angled: tubercles sagittate, larger than the seed. 12 i. N.

quadrangulatus, Mx. (M. 2[.) culm acutely 4-angled; 3 sides concave; one wider, flat: spike cylindric: glumes very obtuse. 1—2 f.

equisetoides, E. (J.) spike cylindric. terminal; scales very obtuse: culms terete, doubly jointed. Resembles Equisetum hyemale. 18—24 i.

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(1) robustus, Ph. maritimus, Bw. E. (2) brizoides, W.
(3) Eriophorum cyperinum, L. Trichophorum cyperinum, P.
(4) minimus, Ph. (5) ciliatifolius, E.

mucronatus, Vahl. (Au.) leafless: spikes oblong; scales entire, acuminate: culm 3-angled.

stenophyllus, E. (Au. ☉.) culm filiform, obtusely 3-angled: leaves setaceous: involucre 4-leaved, very long: spike clustered: glumes mucronate. 3—5 i.

cœrctatus, E. (1) (Oct.) umbel compound, crowded: spikes small, lance-linear: involucre setaceous, with one of its leaves longer than the umbel: leaves filiform, concave on one side. 1 f.

castaneus, Mx. (2) (Ju.) spikes ovate-oblong, obtuse: involucre 2-leaved, rigid, as long as the compound umbel.

sulcatus, E. (Au.) spikes lance-ovate, sometimes acuminate: umbel compound, as long as the involucre: seed longitudinally furrowed. 1 f.

nitens, Vahl. (Ju.) spikes ovate, pedicelled: corymbs generally compound, axillary and terminal: culm terete.

divaricatus, E. (J.) culm obtuse-3-angled: umbels decompound, divaricate: spikes oval, pendulous. 3—4 f.

schœnoides, E. ( ) culm 3-angled: panicles decompound, axillary and terminal, pendulous: spikelets clustered: seed obovate, rugose, surrounded by bristles. 2—3 f.

sylvaticus, Mx. (wood rush. 2ſ.) spikes oblong, crowded: corymb leafy, more than decompound: scales oblong, obtusish, green: culm leafy, 3-angled.

ovatus, Vahl. (Ju. 2ſ.) spike ovate: scales oblong: flowers somewhat diandrous: culm sub-compressed: sheaths unarmed.

Scirpus, Fimbristylis, Rhyncospora.

10—2. Scleran'thus. 22. 30.

annuus, (knawel, gravel chickweed. O. w-g. J. ☉.) calyx of the fruit spreading, acute: stem spreading, sub-prostrate.

19—3. Scle'ria. 3. 9.

triglomerata, Mx.? E (3) (whip grass. J. 2ſ.) culm acutely triangular, scabrous: leaves lance-linear, channelled, a little scabrous, sparingly pilose: spikes fascicled, lateral and terminal: glumes ciliate: nut smooth. 2 f. S. P. Y. N.

pauciflora, M. (4) (Au. 2ſ.) culm 3-angled, glabrous: leaves linear, glabrous: spikes lateral and terminal, few-flowered; lateral ones pendu-

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Scleranthus. Gr. *sklēros*, hard, and *anthos*, flower, on account of its dry calyx.

Scleria. Gr. *sklēros*, hard, on account of the hard and polished fruit.

(1) castaneus, M. (2) Fimbristylis, Vahl.

(3) Elliott says, this is not the triglomerata of Pursh, but may be of Mx. Pursh's description is as follows: *triglomerata*, (J. 2ſ.) culm erect, simple, 3-sided, scabrous: leaves scabrous at the margin: fascicles few-flowered, terminal: glumes ovate, mucronate, scabrous: nuts globose, acute, rugose.

(4) Torrey, in a letter to Dr. Darlington, says, this is not the pauciflora of Pursh. Pursh's description is as follows: *pauciflora*, (Au. 2ſ.) culm erect, simple, 3-angled, scabrous: leaves narrow-linear, channelled, scabrous at the margin: fascicles few-flowered, in pairs, terminal; one very remote, axillary: nut globose, acutish, transversely rugose.

lous; terminal ones clustered: glumes glabrous: nut rugose. 12—18 i. *S.* P. Y.

verticillata, M. (Au. 2*f*.) culm simple, 3-sided: culm and leaves glabrous: spike naked, with alternate distant glomerules: glumes glabrous: nut globose, mucronate, transversely rugose-warty. 1 f. *S.* P.

reticulata, Mx. (Ju.) culm and leaves glabrous: sheaths winged: spikes scattered, axillary and terminal: glumes and bracts glabrous: nut reticulate, dotted. 1—2 f. *S.*

Southern.

oligantha, E. (M.) culm slender, 3-angled, glabrous: leaves narrow, nerved, slightly scabrous: spikes 2—3, sub-terminal, sessile; one lateral, one remote, long-peduncled: nut very smooth, shining. 12—18 i.

gracilis, E. ( ) culm filiform, 3-angled: culm and leaves glabrous: spikes few-flowered, fascicled, sub-terminal: glumes glabrous: nut smooth, shining. 1 f.

ciliata, Mx. (J.) culm erect, glabrous, nearly naked: leaves linear, channelled, pubescent above: spikes terminal, clustered: bracts and glumes ciliate: nut rugose. 1—2 f.

hirtella, Mx. (Ju.) culm erect, slender: culm, leaves and bracts a little hirsute: spikes terminal and axillary: glumes pubescent: nut transversely-rugose. Var. *strigosa*, angles of the stem, margins and midribs of the leaves more hirsute: glumes ciliate: nut tuberculate-rugose. Perhaps a distinct species. Elliott.

interrupta, Mx. ( ) culm simple, 3-angled: culm and leaves pubescent: spike glomerate, naked; clusters alternate, distant: glumes bristly: nut globose, mucronate, transversely warty-rugose.

21—1. SCOLOPEN'DRIUM. 55. 5.

officinarum, W. (1) (caterpillar fern. W. Ju. 2*f*.) frond broad-lanceolate, cordate at the base: stipe chaffy. 8—10 i. Onondaga, N. Y.

Scorzonera, BORKAUSIA.

13—2. SCROPHULA'RIA. 40. 37.

marylandica, (2) (fig-wort. O. g-p. J. 2*f*.) leaves cordate, serrate, acute, roundish at the base: petioles ciliate below: fascicles of the panicle lax, few-flowered. 3—7 f. *S.*

lanceolata, Ph. (g-y. Au. 2*f*.) leaves lanceolate, unequally serrate, acuminate, acute at the base: petioles naked: fascicles of the panicle corymbed. 3—5 f. *S.* P. T. Peekskill.

13—1. SCUTELLA'RIA. 42. 42.

lateriflora, (mad-dog scull cap, hood-wort. O. b. Ju. 2*f*.) branching, gla-

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Scolpendrium. Gr. *skolopendra*, the centipede, so called from the number of its roots and branches, or from little marks on the front resembling this insect.

Scrophularia. Lat. *scrophula*, the king's evil, because it is used in this complaint.

Scutellaria. Lat. *scutellum*, a little shield, from the shape of the lid of the calyx; or from *scutilla*, a small vessel, on account of the figure of the calyx.

(1) Asplenium scolopendrium, L. (2) nodosa. Var. americana, Mx.

brous: leaves long-petioled, ovate, toothed; cauline ones sub-cordate: racemes lateral, leafy. Damp. 1—2 f. *S.*

galericula'ta, (scull-cap. O. b. J. 2*f*.) branching: leaves sub-sessile, lance-ovate, sub-cordate at the base, crenate, a little white-downy beneath; flowers axillary, solitary or in pairs. Flowers large. Damp. 12—18 i.

gracilis, N. (W. b. J. 2*f*.) stem sub-simple: leaves remote, broad-ovate, toothed, smooth, sessile, scabrous on the margin; upper ones smaller, entire: flowers axillary. Resembles the last. 12—18 i. P. C.

parvula, Mx. (W. b. J. 2*f*.) minutely pubescent, simple, or branching from the base: leaves entire, obtuse, sessile, revolute at the margin, veined beneath; lower ones short-petioled, sub-orbicular, sub-cordate at the base; upper ones oblong-ovate, gradually smaller: flowers axillary, solitary, opposite: root (or subterraneous stem) with tuberous internodes and rootlets from each joint. Probably synonymous with *S. ambigua*, N. 3—6 i. *S.* M. P. This improved description is given by Dr. Aikin.

lævigata, Aikin. (W. b. M. 2*f*.) simple, smooth: leaves opposite, petioled, ovate, coarse-serrate, entire at the base and extreme apex, acute, or sub-acuminate, sub-ciliate, tapering to the base, veined, glabrous, paler beneath: raceme simple, terminal, flowers opposite, bracted, sub-pubescent, erect; upper bracts smaller entire: flowers large. 12—18 i. M.

integrifolia, (W. b. Ju. 2*f*.) somewhat simple, densely pubescent: lower leaves ovate, crenate, tapering to the base: upper ones lance-linear, obtuse, entire, sessile: racemes lax-flowered, leafy. Var. *hyssopifolia*, has the leaves all linear. 1—2 f. *S.* P. C. H. N.

pilosa, Mx. (1) (b. J. 2*f*.) nearly simple, pubescent: leaves remote, rhomb-ovate, obtuse, round-crenate, rugose, petioled: lower ones sub-cordate: racemes panicled: flowers crowded: bracts lanceolate, entire. 18—24 i. *S.* H.

canescens, N. (W. b. 2*f*.) branching: leaves ovate, acute, acutely toothed, petioled, hoary-villose beneath; lower ones sub-cordate: racemes axillary and terminal, pedicelled, sub-panicled: bracts lance-ovate, longer than the calyx: bracts and flowers hoary-villose. 2—3 f. *S.* Harper's Ferry.

ovalifolia, P. (W. b. J. 2*f*.) leaves sessile, ovate or sub-oval, serrate; upper ones lanceolate, sub-entire. P. Y.

cordifolia, M. (2) (W. b. w. Au. 2*f*.) leaves broad-cordate, acute, obtusely toothed: petioles long: racemes opposite and terminal: bracts ovate, acuminate: stem branching. 2—3 f. *S.* P. K.

ambigua, N. (W. w-b. 2*f*.) low, sub-decumbent, divaricate, branched: leaves sessile, ovate, rarely remotely serrate, sub-hirsute above: flowers small axillary. Var. *missouriensis*, leaves ovate-oblong: lower ones ovate, short-petioled; all entire. 4—6 i. D. Black Rock.

resinosa, T. &. J. (W. b.) minutely glandular-pubescent, very branching: leaves ovate, very obtuse, abruptly narrowed at the base, very entire, sprinkled on each side with resinous dots: flowers axillary, villose.

Southern

nervosa, Ph. (b. Au. 2*f*.) nearly simple, glabrous: leaves sessile, ovate, toothed, nerved: raceme terminal, lax, leafy.

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(1) caroliniana, Wr. (2) versicolor, N.†

angustifolia, Ph. (W. J. 2ℓ.) simple, finely pubescent: leaves linear: flowers axillary, opposite: stamens sub-exsert.

caroliniana, Lk. (2ℓ.) branching, very glabrous: leaves petioled, lance-linear, acute, entire: racemes lax, leafy: calyx obtuse.

serrata, Ph. (b. Ju. 2ℓ.) branching, pubescent: leaves ovate, acuminate, serrate, short-petioled: racemes terminal, lax, often panicled: bracts lanceolate-short.

villosa, E. (J.) stem erect, branching, villose: leaves large, lanceolate, acute at each end, coarse-toothed, villosè beneath, hispid above: racemes panicled: flowers crowded. 2—3 f.

3—2. SECA'LE. 4. 10.

Exotic.

cereale, (rye. J. ☉.) glumes and bristles scabrous-ciliate: corol smooth. Introduced.

10—5. SE'DUM. 13. 86.

ternatum, Mx. (false ice-plant. W. w. J. 2ℓ.) small, creeping: leaves flat, round-spatulate, ternate: flowers somewhat 3-spiked. Varies into the eighth class. Cultivated. S. P. H. M. K.

telephioides, Mx. (p. Ju.) leaves broad-lanceolate, acute at each end, dentate: corymbs many-flowered. 1 f. S. F. Harper's Ferry.

nuttallii, T. & J. (W.) leaves roundish, flat, entire, scattered: cymes terminal, trichotomous.

lanceolatum, T. & J. (W. w.?) leaves flat, sub-alternate; lower ones crowded, lance-oblong, acutish, glabrous, with the margin glandular-serrulate: stem branching, assurgent: flowers cyme corymbed: petals lanceolate, spreading.

Exotic.

telephium, (orpine, live-forever. r. w. Ju. 2ℓ.) leaves flattish, tooth-serrate, thickly scattered: corymb leafy: stem erect.

anacampseros, (stone crop. 2ℓ.) leaves wedge-form, entire, sub-sessile: stem decumbent: flowers corymbed.

Southern.

pulchellum, Mx. (W. p.) glabrous: stems assurgent: leaves scattered, linear, obtuse: cyme many-spiked: flowers sessile, octandrous.

pusillum, Mx. (1) (w. Ju. 2ℓ.) erect, glabrous: leaves alternate, nearly terete, oblong: flowers sub-terminal, few, alternate, sub-pedicelled. 2—4 i.

stenopetalum, Ph. (W. y. Ju. 2ℓ.) glabrous, stems ascending: leaves scattered and crowded, adnate-sessile, compressed-subulate, acute: cyme terminal, thrice-dichotomous: spikes recurved: flowers sessile, decandrous: petals linear, much longer than the calyx.

Secale. Lat. *secale*, rye: from Celtic *segal*, of *sega*, a sickle, by which name were known all plants cut with a sickle.

Sedum. Lat. *sedo*, to sit, because it grows on the face of rocks, and looks as if sitting upon them.

(1) Diamorpha, N. and Tillaea cymosa of the same.

rhodiola, Dc. (1) (W. g. y. 2ℓ.) erect, simple: leaves imbricate, sessile, obovate, acute, fleshy, glaucous, toothed above: cymes terminal, branching. 8 i.

14—1. SELE'NIA. 39. 63.

Southern.

aurea, N. (W. y. ☺.) stem glabrous, sub-divided at the base, acute-triangular: leaves smooth, somewhat succulent; radical ones sub-bipinnatifid, sessile: peduncles axillary angular. 4—6 i.

Selinum, CNIDIUM.

12—13. SEMPERVI'VUM. 13. 83.

Exotic.

tectorum, (houseleek. Au. 2ℓ.) leaves ciliate: bulbs spreading: nectaries wedge-form, crenulate.

arboreum, (tree houseleek.) stem woody, smooth, branching: leaves wedge-form, glabrous, with soft spreading hairs.

Senebiera, LEPIDIUM.

17—2. SENE'CIO. 49. 55.

1. *Florets tubular: rays none.*

Remark. The three first species vary from the character of the section under which the genus is placed; being destitute of rays.

vulgaris, (groundsel. W. y. J. 2ℓ.) leaves mostly clasping, sinuate-pinnatifid, toothed: flowers panicled: stem erect, branched. Perhaps introduced. 12—20 i. T. P. B.

hieracifolius, (fire-weed. O. w. J. ☽.) stem wand-panicled: leaves clasping, oblong, acute: deeply, acutely and unequally toothed: calyx smooth, bristly at the base. This plant springs up wherever land has been recently cleared of timber, and more particularly if it has been burned over. 4—8 f. S.

elongatus, Ph. (long-stem groundsel. W. Ju. 2ℓ.) glabrous: radical leaves spatulate, serrate, tapering into the petiole: cauline leaves pinnatifid, toothed, very remote; peduncles elongated, corymb-umbelled: P.

pauciflorus, Ph. (2ℓ.) glabrous: radical leaves long-petioled, roundish-ovate, sub-cordate, toothed: cauline ones 2, remote, pinnatifid, toothed: peduncles short, somewhat in 3's, umbelled. Labrador. 8 i.

2. *Flowers with ray florets.*

pauperculus, Mx. (2ℓ.) stem very simple, rigidly erect, nearly naked:

Selenia. From Gr. *selene*, the moon.

Sempervivum. Lat. *semper*, always, and *vivens*, living, being on account of its succulent habit remarkably tenacious of life.

Senecio. Lat. *senex*, an old man, from the grey-downy seed heads, or because it becomes old in the beginning of the season, the name meaning the same as Erigeron.

(1) Rhodiola rosea, L.

leaves lanceolate; radical ones sub-entire and gash-toothed: corymb few-flowered: calyx smooth: rays small.

gracilis, Ph. (W. M. 2[.) radical leaves very long petioled, orbicular, sub-cordate, crenate; cauline ones few, very remote, linear-oblong, dilated at the base, gash-toothed: peduncles very short, hirsute, sub-umbelled: calyx smooth: rays few, very short. 1 f. P. N.

obovatus, (W. y. M. 2[.) radical leaves obovate, crenate-serrate, petioled; cauline ones pinnatifid, toothed: flowers sub-umbelled, long-peduncled, bracted: with a cavity under the receptacle like some other of the genus: stem somewhat glabrous. S. B. P. N.

balsamitæ, (balsam groundsel. W. y. J. 2[.) radical leaves oblong, serrate, petioled; cauline ones lyrate or pinnatifid: flowers sub-umbelled: stem and peduncles villose at the base. 1—2 f. S. V. Y. P. B. C. M. N. D.

aureus, W. (rag-wort, false-valerian. W. y. J. 2[.) radical leaves ovate, cordate, serrate, petioled; cauline ones pinnatifid, toothed, terminal division lanceolate; peduncles sub-umbelled, incrassate. 18—24 i. S. B. C. O. P. N. T. V.

cymbalaria, Ph. (W.) radical leaves roundish, petioled, truncate at the base, toothed: petioles appendaged, sub-lyrate; cauline ones sessile, linear gash-toothed: stem about 1-flowered. Perhaps a variety of the last.

canadensis, W. ( ) leaves doubly pinnate, linear, glabrous: uppermost ones simply pinnate: flowers in compound, fastigiate corymbs. Canada.

lugens, Rich. ( ) deciduous-tomentose or naked; simple: leaves entire, glandulous-dentate; radical ones oblong spatulate; cauline ones lanceolate, acute, somewhat clasping: corymb dense: leafets of the calyx remarkably sphacelate. R. A.

triangularis, H. ( ) high; simple; leafy; very glabrous: leaves almost all petioled, deltoid-acuminate, coarsely and unequally dentate-serrate: flowers largish, corymbed: divisions of the calyx somewhat lax, sphacelate at the apex. R.

serra, H. ( ) high; ramose; very glabrous: leaves numerous, lance-linear, deeply and unequally dentate-serrate: panicle very branching, densely sub-corymbed: leafets of the calyx somewhat lax, scarcely sphacelate. R.

canus, H. ( ) hoary-tomentose: radical leaves spatulate, very entire; cauline ones lance-linear, pinnatifid: leafets of the calyx scarcely sphacelate. A var. with the leaves somewhat glabrous above. D.

resedifolius, Lessing. ( ) dwarfish; very glabrous: stem scarcely leafy: radical leaves longly petioled; outer ones rotund, crenate-sinuate; middle ones lyrate-pinnatifid; segments entire or 2—3-lobed; cauline ones oblong-pinnatifid at the base: axils woolly: stem 1—3 flowered. A.

eremophilus, Rich. ( ) rays spreading: stem high, branching: leaves all very glabrous, pinnatifid; divisions sub-linear, distant, semi-pinnatifid: flowers corymbed: bracts lax, long, conforming to the cylindric calyx. A.

frigidus, Lessing. ( ) deciduous-tomentose: stem simple, somewhat low: leaves oblong, very entire; lower ones obovate, petioled: stem ascending, 1-flowered. A.

pseudo-arnica, Lessing. ( ) deciduous-tomentose: stem thick, erect, leafy: leaves oblong, dentate, attenuate below; upper ones sub-cordate at the base, somewhat clasping; lower ones attenuated into a petiole: flower solitary, large. A. Newfoundland.

palustris, Hk. (1) ( ) simple or ramose; woolly: stem fistulous: leaves broad-lanceolate; cauline ones lance-linear, sinuate-dentate, almost pinnatifid: flowers corymbed. Var. *congesta*, (2) stem very simple, flowers capitate. A.

Southern.

ciliatus, Wr. (w.) stem pilose: leaves lance-linear, ciliate.

tomentosus, Mx. (M. 2f.) hoary and woolly: stem simple: leaves petioled, lance-oval, serrulate: corymb sub-umbelled. 2 f.

fastigiatus, Sz. (y.) radical leaves oblong, heart-ovate, crenate-toothed, glabrous; cauline ones pinnatifid, divisions gash-toothed: flowers sub-umbelled: peduncles and calyx glabrous. 2—3 f.

lobatus, P. (y. M. ☺.) glabrous: leaves lyrate-pinnatifid; lobes round, sub-repand: corymb compound: upper peduncles sub-umbelled. 1—3 f. Florida.

integerrimus, N. (W. y. J.) smooth: stem simple, slender: leaves very entire; radical ones long-petioled, lanceolate, acute, cauline ones sessile, acuminate; highest ones minute: corymb simple: peduncles 1-flowered: rays shorter than the hemispheric, calycled calyx. Damp. 12—18 i.

Senecio, CACALIA, CINERARIA.

20—9. SERPIC'ULA. 15. 22.

canadensis, Mx. (3) (ditch moss, little snake weed. O. w. Ju. 2f.) perfect flowers triandrous: stigmas strap-like, reflexed, 2-cleft: leaves linear, acute, somewhat whorled, glabrous, denticulate. The pistillate corols are tubular. *S.*

Serrulata, LIATRIS.

13—2. SESA'MUM. 40. 40.

Exotic.

indicum, (bene-benni, oily grain. r-w. Au. ☺.) leaves lance-ovate; lower ones 3-lobed; upper ones undivided, serrate. 2—4 f.

16—10. SESBA'NIA. 32. 93.

Southern.

vesicaria, Jn. (4) (y. Au.) leaves equally pinnate: leaflets (10—20 pairs,)

Serpicula. Lat. *serpo*, to creep, in allusion to its creeping habit and small size.

Sesamum. Gr. *sesamon*, of Arabic *semsen*, which was the ancient name for this plant.

Sesbania. (The Arabic name of the plant) *Sesban*, with a Latin termination.

(1) Cineraria palustris, Lin. (2) Cineraria congesta, Br. (3) occidentalis, Ph. verticillata, M. Elodea, Mx. Udora, N (4) platycarpa, P. disperma, Ph. Robinia, Jn. Aeschynomene palaytycarpa, Mx. Glottidium floridanum.

oblong, obtuse, glabrous: racemes few-flowered, shorter than the leaves: loment lanceolate, long stiped, about 2-seeded. 5—7 f.

macrocarpa, M. (O. y. & p. S. ☺.) leaves equally pinnate; leafets (10—25 pairs,) oval, glabrous, sub-glaucous beneath: racemes axillary, few-flowered: legumes elongated, nearly terete. 4—12 f.

5—2. SES'ELI. 45. 60.

triternatum, Ph. (W. M. y. 2ℓ.) leaves triternate; leafets long-linear: umbels hemispheric; involucres many-leaved, with linear leafets of the length of the umbels. R.

divaricatum, Ph. (y. M. 2ℓ.) stem very branching, divaricate: leaves bipinnatifid, with gashed lanceolate divisions: general involucre none: involucel linear. 6—9 i. Louisiana. A.

leiocarpum, H. ( ) leaves longly sheathed, triternate or triternate-pinnate: leafets petioled, oblong, very entire, entire or trifid, glaucous: stem nakedish: umbellets compound; rays universal, very unequal: umbels capitate: flowers diœcious or polygamous? fruit (when immature) very smooth, oblong-cylindric: involucres and involucels none. 9 i. A. R.

3—2. SESLE'RIA. 4. 10.

Southern.

dactyloides, N. (moor grass. W. g.) culm setaceous, leafy: leaves short, flat, subulate, sub-pilose: stipules bearded: spikes 2—3, few-flowered: corol and 2-flowered calyx acuminate, entire. 4—5 i.

11—5. SESU'VIUM. 13. 87.

sessile, Dc. (L. r. Ju.) flowers sessile: leaves linear-oblong, flat.

Southern.

pentandrum, E. (L. Au.) leaves lance-linear, obtuse, succulent: flowers solitary, closely sessile, pentandrous. The descriptions of the *sessile* are too short to enable me to determine whether this is the same. Elliott.

pedunculatum, Dc. (L. w. Au.) leaves lance-linear, obtuse, succulent; flowers solitary, axillary, peduncled, polyandrous.

Setaria, PENNISETUM.

13—2. SEYME'RIA. 40. 37.

Southern.

tenuifolia, Ph. (1) (y. & p. Au. ☺?) glabrous, very branching: leaves

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Seseli. Lat. *seselis*, Gr. *seselis*, words probably of Arabic origin.

Sesleria. In honor of Dr. Leonard Sesler, a Venetian cultivator of plants.

Sesuvium. Gr. *sekos*, a bird's nest, which each half of the capsule resembles.

Seymeria. In honor of a patron of botany of the name of Seymer.

(1) Gerardia cassioides, Ph. afzelia, Mx.

compound-pinnatifid; segments filiform, opposite and alternate: corol sub-rotate: capsule glabrous. 3—4 f. Charleston, S. C.

pectinata, Ph. (y. S. ☺?) viscid-pubescent, very branching: leaves pectinate-pinnatifid: divisions undivided, acute, linear: corol sub-rotate: capsule pubescent. 2—4 f.

macrophylla, N. (W. y. Ju.) branching: leaves smoothish; lower ones sub-pinnatifid or deeply toothed; upper ones lanceolate, entire: orifice and tube of the corol densely lanuginous: stamens scarcely exserted. 4—5 f.

Sheperdia, HIPPOPHAE.

5—5. SIBBAL'DIA. 35. 92.

procumbens, (A. y. Ap. 2ſ.) leaves ternate: leafets wedge-form, 3-toothed, smooth above, hairy beneath.

Southern.

erecta, Var. *parviflora*, (W. r-w. Ju. ♂.) erect, branching: radical leaves about twice 3-cleft: segments sub-divided; cauline leaves alternate, sessile, sub-bipinnatifid. 4—6 i.

19—15. SI'CYOS. 34. 97.

angulata, (single-seed cucumber. O. w. Ju. ☺.) leaves cordate, with obtuse hind lobes, 5-angled, scabrous, denticulate: fruit capitate, hispid. Cultivated. River alluvion. *S.*

15—12. SI'DA. 37. 74.

spinosa, (W. y. Ju. ☺.) stem spreading: axils sub-spinose: leaves long petioled, lance-ovate, obsoletely cordate, toothed: peduncles solitary axillary: stipules setaceous, longer than the peduncle: capsule 2-beaked. 1—2 f. *S.* P. Y. H.

abutilon. (indian mallows. W. y. Ju. ☺.) leaves round-cordate, acuminate, toothed, tomentose, peduncles solitary, shorter than the petioles: capsules 2-awned, truncate. 4—6 f. *S.* P. C. O. F. N. T. V. Catskill.

napaea, (1) (false mallows. w. Ju. 2ſ.) leaves heart-5-lobed, glabrous: lobes oblong, acuminate, toothed: peduncles many-flowered: capsules awnless, acuminate. 2—4 f. *S.* P.

dioica, (2) (W. w. Oc. 2ſ.) leaves 7-lobe-palmate, scabrous: lobes lanceolate, gash-toothed: corymbs bracted: flowers dioecious. P.

crispa, (L. w. Au. ☺.) leaves oblong-cordate, acuminate, crenate; upper ones sessile: peduncles solitary, longer than the petioles, deflected when in fruit: capsules inflated, awnless, crisp-undulate. P.

stellata, T. & J. (W. r.) densely stellate-pubescent: leaves lanceolate, acute, erose-serrate, rugose: pedicels axillary, shorter than the peti-

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Sibbaldia, In honor of Sir Robert Sibbald, author of Scotia illustratica.
Sicyos. Gr. *sikuos*, cucumber, which belongs to the same family as this.
Sida. Gr. *sidē*, a name given by Theophrastus either to a malvaceous plant, or to our Nymphæa.
(1) Napaea leavis, 4th ed. (2) Napaea scabra, 4th ed.

ole, 3—5-flowered: flowers in capitate glomerules: capsules (12—14,) bi-mucronate, 1—2-seeded, broader at the base, reticulate.

Southern.

hispida, Ph. (y. Au. 2ſ.) hispid-pilose: leaves lanceolate, serrate: peduncles solitary, axillary, as long as the petioles: outer calyx filiform. 1—2 f.

rhombifolia, (y. Au. 2ſ.) leaves lance-oblong, toothed, wedge-form and entire at the base: peduncles much longer than the petioles: capsules 2-horned. 1—2 f.

alcaeoides, Mx. (W. Ju. 2ſ.) lower leaves triangular-cordate, gashed; upper ones palmate-many-cleft: corymb terminal: calyx hispid.

gracilis, E. (y. Au. 2ſ.) stem slender, glabrous: leaves linear serrate: peduncles solitary, axillary, as long as the petioles: capsules (10,) 2-horned, glabrous. 2—3 f.

glabra, N. (y. ✿?) small; ramose; very glabrous: leaves linear-oblong, sub-lanceolate, gashed, unequally serrate, short-petioled, smallish; flowers axillary aggregated: carpellae sub-10, bi-dentate. 9 i. Florida.

17—2. SIEGESBEC'KIA. 49. 55.

flosculosa, W. (W. y. Au. ✿.) leaves sessile, ovate, toothed; florets of the disk 3-toothed, triandrous.

Southern.

laciniata, Lk. ( ) leaves gash-pinnatifid; upper ones lanceolate, entire, tuberculate: outer calyx short: florets of the ray very large.

11—12. SIEVER'SIA. 35. 92.

anemonoides, Dc. (1) (w.) stem one-flowered; stoloniferous; creeping: leaves pinnate, glabrous; pinnae ensiform, dentate at the apex: stipules filiform: petals longer than the calyx: style bearded. A.

rossii, Br. (2) ( ) awns naked: leaves radical, interruptedly pinnate, glabrous; pinnae 3-lobed; lowest and accessory ones small and undivided: stem one-flowered, somewhat 2-leaved: veins of the petals all distinct. A.

glacialis, Br. (3) ( ) covered all over with dense, yellow hair: leaves pinnate; divisions ovate-oblong, upper and lower ones smallest; middle ones larger, somewhat one-toothed: flower large, single, terminal: awns of the carpellae very villose. A.

triflora, Br. (4) (r.) hirsute: stem nakedish, erect, simple, three-flowered: leaves radical, interruptedly pinnate; pinnae cuneate, gash-dentate, sometimes pinnatifid; lower ones gradually smaller: petals equalling the calyx: awns very long, silky-villose. R. A. Newfoundland.

radiata, Mx. (5) (y.) hirsute; simple: radical leaves lyrate-pinnati-

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Siegesbeckia. In honor of Dr. J. G. Siegesbeck, an opposer of Linneus.

Sieversia. Named by Willdenow in honor of M. Seivers, a well known Russian botanical collector.

(1) Geum, W. Ph. Dryas pentapetala, Lin. (2) Geum, Dc. (3) Geum. Adams. Dc. (4) Geum, Ph. Potentilla nivalis, T. (5) Geum calthifolium, S.

fid; lateral leafets few, very minute; terminal one largest, rotund cordate, sinus narrow, very deep, radiate-nerved, sub-lobed, crenate-serrate; cauline ones 3—5, sessile, cordate, gash-lobed: flowers few (2—3) erect: corol longer than the calyx: awns sub-pilose. A.

10—3. SILE'NE. 22. 82.

pennsylvanica, Mx. (1) (pink catch-fly. W. r. J. 2ℓ.) viscid pubescent: lower leaves wedge-form; upper leaves lanceolate: stems few-flowered at the summit: about 3 petals obtuse, slightly emarginate, sub-crenate. 6—10 i. *S.* T. C. P. B. K. Y. N. D.

virginica, Mx. (2) (W. r. J. 2ℓ.) decumbent, wholly viscid-pubescent: leaves oblong, a little rough at the margin: panicle dichotomous: petals 2-cleft: stamens and pistils exsert. Var. *erecta*, has the stem erect: flowers sub-fascicled. 12—18 *i.* *S.* P. T. D. M. K. Sandusky bay.

antirrhina, (sleepy catch-fly. O. w-p. J. ☺.) leaves lanceolate, sub-ciliate: peduncles 3-parted: petals emarginate: calyx ovate. Flowers small. 1—3 f. *S.* T.

noctuma, (w. J. ☺.) flowers alternate sessile, on a one-sided spike: petals 2-cleft. *S.* P.

acaulis, (W. r. Ju. 2ℓ.) stemless, depressed: leaves linear keeled: peduncles terminal, solitary, erect, 1-flowered: petals emarginate. *S.* R. Labrador.

Exotic.

armeria, (garden catch-fly. w. r. Au. ☺.) flowers fascicled, fastigiate: upper leaves cordate, glabrous: petals entire.

conica, (cone-fruit catch-fly. r. ☺.) calyx of the fruit conic, striate: (about 30 striae) leaves soft, lanceolate: petals bifid. Flowers small.

dichotoma, (forked catch-fly. w. Au. ♂.) calyx ovate, viscid hairy, erect: petals 2-cleft: racemes in pairs, terminal, one-sided: flowers intermediate: peduncled: leaves petioled, lance-ovate, ciliate at the base.

noctiflora, (night-flowered catch-fly. w-r. Ju. ☺.) calyx 10-angled, veiny: teeth of the tube equal: stem dichotomous: petals bifid.

Southern.

quinquevulnera, (r. Ju. ☺.) hirsute: leaves wedge-oblong: upper ones linear: petals roundish, entire: fruit erect, alternate. 8—12 i.

ovata, Ph. (r-w. J. 2ℓ.) leaves lance-ovate: acuminate, smoothish: raceme terminal, compound: calyx ovate: stamens and styles exsert: stem simple.

fimbriata, Bald. (w. M.) stem pubescent: leaves obovate ciliate: petals large, fimbriate. 6—8 i.

regia, (W. r. J. 2ℓ.) pulverulent-viscid-pubescent: leaves broad-ovate, opposite, somewhat scabrous: calyx long-cylindric: petals oblanceolate, generally entire: style and stamens exsert. 2—3 f.

rotundifolia, N. (W. r. Ju.) decumbent: stem calyx, and margin of the

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Silene. Gr. *sialon*, saliva, in allusion to the viscid matter covering the plant; or after the god, Silenus, who is represented as always drunk, and covered with slaver.

(1) virginica, W. caroliniana, Wr. (2) catesbæi, Wr.

leaves very pilose: leaves broad-oval, acuminate at each end: flowers few, trichotomal: petals gashed, sub-4-cleft, lateral segments shorter. K.

baldwinii, (1) N. (M. r.) sub-pilose, not viscid: stem sub-erect, with brown distant joints: leaves small, oblong below, obovate acute above. Flowers very large. 6—18 i. On barren soil. Common near Charleston, S. C. Name by Nuttall,—description and locality by Drayton.

axillaris, (2) (p. Au.) viscid-pubescent: stem branching: leaves ovate and oval, petioled, sub-dentate: flowers sessile, axillary, solitary. 8 i.

17—4. SIL'PHIUM. 49. 55.

perfoliatum, (ragged cup. W. A. y. Au. 2ſ.) stem 4-sided, smooth: leaves opposite, connate, ovate, serrate. Var. *conjunctum*, four outer scales of the calyx longer than the inner scales. 4—6 f. *S.* P.

integrifolium, Mx. (A. y. Au. 2ſ.) stem 4-sided, rough: leaves opposite, sessile, oblong, entire, scabrous: flowers few, short-peduncled. 4 f. *S.* P.

trifoliatum, (3) (y. S. 2ſ.) stem 6 angled, smooth: leaves whorled, in threes, lance-ovate, unequally tooth-serrate, scabrous above: upper ones sessile: panicle trichotomous. 4—6 f. *S.*

ternatum, (W. y. Ju. 2ſ.) stem terete, smooth: leaves whorled, in threes, petioled, lanceolate, sub-denticulate, a little scabrous, ciliate at the base: the upper ones scattered, sessile: panicle dichotomous: calyx ciliate. 4—6 f. *S.* P. Niagara.

Southern.

gumniferum, E. (W. y. Ju. 2ſ?) stem erect, hispid, gumniferous; leaves sinuate-pinnatifid, sub-hispid beneath: flowers large, axillary, sub-sessile: scales of the calyx ovate, acuminate, hispid on the margin. 2—3 f. D.

laciniatum, (O. y. Au. 2ſ.) stem hispid above: radical and cauline leaves pinnatifid: divisions tooth-sinuate: flowers panicled: scales of the calyx sub-cordate, acuminate. 8—12 f

pinnatifidum, E. (W. y. Au.) stem nearly glabrous: leaves sinuate-pinnatifid, sub-scabrous, a little hairy beneath: scales of the calyx oval; outer ones roundish. 4—6 f.

compositum, (y. Ju. 2ſ.) stem smooth: cauline leaves pinnatifid-sinuate: radical ones ternate, sinuate many-cleft: flowers small, panicled. 2—4 f.

terebinthinaceum, (W. y. Ju. 2ſ.) stem smooth: radical leaves large, round or reniform-cordate, slightly lobed and toothed: cauline leaves alter-

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Silphium. Gr. *silphion*, the name of a plant of the umbelliferous kind, which Linneus transferrred to this genus.

(1) Eatonia. MSS. of Dr. Charles Drayton, of Charleston, S. C. I should be highly gratified in seeing this new genus in regular series in the Manual, as a memento of the sincere kindness of my respected friend. But I have often committed myself in opposition to the separation of kindred species, on account of a technical difference. The chief differences assumed by Dr. D. are: the marcescent petals torn; 2 ligulate nectaries adhering to the inside of each petal, and free at the rounded entire apex; anthers cordate-lobed; capsule 4-toothed at the apex? (2) of M. C. Leavenworth. (3) ternifolium, Mx.

nate, ovate, serrate, scabrous: panicle compound, many-flowered. 4—5 f. D.

connatum, (A. y. Au. 2*f*.) stem terete, hispid; leaves opposite, connate, remotely serrate, scabrous. 6 f.

laevigatum, Ph. (y. Au. 2*f*.) stem simple, 4-angled, furrowed, glabrous: leaves opposite, sessile, ovate, acuminate, slightly serrate, sub-cordate at the base, glabrous on both sides. 2 f.

scaberrimum, E. (y. Au.) stem sub-angled; angles rough above: leaves ovate, sub-acuminate, serrate, rigid, scabrous on both sides, short petioled: flowers corymbed: scales of the calyx ovate, ciliate. 3—4 f. Charleston, S. C.

atropurpureum, Retz. (W. y. Au. 2*f*.) stem terete, smooth: leaves whorled, in fours, lanceolate, scabrous, sub-entire, sub-sessile, ciliate at the base; upper ones scattered: panicle dichotomous. 4 f.

dentatum, E. (y. Au.) stem erect, somewhat glabrous: lower leaves opposite; upper ones alternate; all lanceolate, sinuate toothed, pilose, scabrous: flowers corymbed: scales of the calyx broad-ovate, ciliate. 2—3 f.

asteriscum, (y. Ju. 2*f*.) stem simple, terete, hispid: leaves opposite or alternate, oblong, acute, serrate, scabrous: flowers few, generally solitary. Var. *scabrum*, leaves lance-oblong, sub-crenate, sessile, scabrous; calyx sub-ciliate. 2—3 f.

pumilum, Mx. (1) (y. Au. 2*f*.) stem and petioles tomentose: branches 1-flowered: leaves alternate, heart-ovate, serrate, petioled, white-tomentose beneath: seeds unawned. 2—3 f. Florida.

elatum, Ph. (y. 2*f*.) leaves alternate, petioled, cordate, sinuate: scales of the calyx obtuse.

reticulatum, Ph. (y. 2*f*.) leaves alternate, lance-ovate, cordate, serrate, obtusish, a little villose.

subacaule, N. (y.) somewhat scabrous: stem very short: pedunules very long: leaves oblong, sub-sinuate-pinnatifid, toothed: divisions of the calyx dilated, rhomboid.

14—2. Sina'pis. 39. 63.

Exotic.

nigra, (common mustard. y. J. ☺.) silique glabrous, 4-angled, close-pressed to the stem: leaves at the top lance-linear, entire, smooth. Naturalized.

alba, (yellow-seed mustard. y. ☺.) silique bristly, rugged, shorter than the 2-edged beak: leaves pinnatifid; upper ones sub-lyrate, all irregularly toothed. Seeds large, pale-yellow, and sometimes become blackish.

5—2. Si'son.* 45. 60.

majus, Dc. ( ) stem glabrous; leaves cut-pinnate; lobes of all

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Sinapis. Lat. *sinapis*, which De Theis conjectures came from Celtic *nap*, plants allied to the radish.

Sison. Gr. *sisōn*, a plant of the umbelliferous kind, from Arabic *si, zan*, which signifies a running stream.

(1) tomentosus, Ph.

*These species should have been described under Ammi.

with cartilaginous margins, sharply serrulate: those of the lower ones lanceolate; those of the upper ones many cleft and linear.

rubricaule, Dc. (.) leaves half-whorled; cut-tri-pinnate; segments capillaceous: partial involucres compound, longer than the umbellets. Near Baltimore.

Sison, ŒNANTHE, ZIZIA, URASPERMUM, DISCOPLEURA.

14—2. SISYM'BRIUM. (1) 39. 63.

officinale, (hedge mustard. O. y. J. ☽.) siliques close-pressed to the rachis of the spike: leaves runcinate. 1—3 f. *S.*

canescens, N. (2) (W. y. Ap. ☉.) leaves bipinnatifid, hoary: divisions toothed, obtuse, sometimes obovate: petals as long as the calyx: siliques sub-angled, ascending, shorter than the peduncles. 1—2 f. *S.* R.

cheiranthoides, (3) (O. y. J. ☉.) siliques erect: fruit-bearing pedicels spreading: leaves lanceolate, sub-entire. *S.* D. Canada.

junceum, Dc. ( ) leaves glabrous, glaucous; lower ones petioled, runcinate-pinnatifid: upper ones lance-linear, entire. R.

curvisiliqua, H. (y. ☉.) erect; branching: leaves lanceolate, pinnatifid, acute, glabrous, somewhat clasping at the base; segments lance-linear spreading; upper ones sub-entire: raceme fructiferous, elongated: siliques linear, curved, acuminate, twice as long as the pedicel. R.

sophioides, Fischer (y. ☉.) leaves bipinnatifid; lobes ovate or lanceolate, gashed: pedicels and petals somewhat shorter than the calyx: flowers and siliques linear-filiform, falcate, umbel-corymbed. 1—2 f. A.

brachycarpum, Rich. ( ) sub-glabrous: leaves bipinnatifid; lobes lanceolate, obtuse, entire or scarcely dentate: petals larger than the calyx: siliques linear, short. R. A. Canada.

humile, Ledebour, (w. p. r. 2[.) hoary-pubescent: stem diffuse: leaves entire or sinuate-dentate; radical ones spatulate; cauline ones lanceolate; attenuated at the base: siliques linear, 5 times longer than the pedicel, terete-torulose, pubescent. Var. 1. leaves sub-entire. var. 2. leaves sinuate-dentate, sub-pinnatifid. A. R.

lyrata, (4) (w. Ap. ♂.) radical leaves lyrate-pinnatifid, sub-hirsute; cauline ones linear, very entire: stem and upper leaves glabrous, glaucous: branches erect: silique erect, straight, linear, twice as long as the pedicels. P. Y. T. R. C.

Sisymbrium, ERYSIMUM.

15—3. SISYRIN'CHIUM. 6. 18.

anceps, Cav. (5) (blue-eyed grass. O. b. J. 2[.) scape (or culm) simple,

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Sisymbrium. Gr. *sisumbrion*, the water rocket, from *sisubos*, fringe, from its fringed roots.

Sisyrinchium. Gr. *sus*, a hog, and *rughos*, snout, hogs being supposed fond of rooting it up.

(1) Erysimum of Authors. (2) sophia, Ph. not L.

(3) parviflora, P. (4) arabidoides, Hk. see p. 164, where Hooker misled me. A. lyrata must be struck out under the species, petrea; as this is the true A. lyrata. (5) bermudianum, Mx. gramineum, Lk.

2-edged or 2-winged: glume-like spathe of 2 unequal valves, extending above the flower: petals mucronate. 6—12 i. *S.*

mucronatum, Mx. (W. b. J. 2ℓ.) leaves and scape simple, sub-setaceous: spathe colored, with one valve terminating in a long mucronate point. 9—12 i. *S.* P. M.

bermudianum, L. (W. b. J. 2ℓ.) stem compressed, branching, leafy: spathes unawned, shorter than the flowers: petals mucronate. 8—18 i. *S.* P.

brachycarpum, Hk. (W.) sub-glabrous: leaves bipinnatifid: lobes lanceolate, obtuse, entire, or partially toothed: petals larger than the calyx: silique linear. R. Canada.

humile, Hk. (W. 2ℓ.) white hairy: stems diffuse: leaves entire or pinnate-toothed; radical ones spatulate; cauline ones lanceolate, tapering at the base: silique pod linear, five times longer than the pedicel, terete-ridgy, pubescent. R. N. W. Lakes.

5—2. Si'um. 45. 60.

latifolium, (1) (water parsnip. W. w. Ju. 2ℓ.) leaves pinnate; leafets oblong-lanceolate, acutely serrate, stem erect, angular, hollow, smooth. Whenever any of the leaves grow under water they are sub-divided. 1—3 f. *S.* B. N. O. P. F. C. T.

lineare, Mx. (w. Ju. 2ℓ.) leaves pinnate; leafets linear, sub-lanceolate, acutely and finely serrate: involucres many-leaved, linear; umbels terminal. Probably a variety of the last. Torrey. P. Y. C. F. N.

douglasii, Dc. (w. 2ℓ.) stem terete: leaves gash-pinnate, lower segments gash-3-cleft, these and the rest petioled ovate-oblong, coarsely serrate: umbels opposite the leaves and terminal, peduncled, without involucres, many-rayed. 2 f. R.

Sium, Œnanthe, Heterosciadium.

Smilacina, Convallaria.

20—6. Smi'lax. 11. 12.

1. *Stems woody.*

quadrangularis, M. (Ju. ♄.) stem prickly, 4-angled: leaves unarmed, ovate, acute, sub-cordate, 5-nerved. *S.*

sarsaparilla, (2) (J. ♄.) prickly: leaves unarmed, lance-ovate, cuspidate, sub-5-nerved, becoming glaucous beneath: the general peduncles longer than the petioles. *S.* P. Y.

rotundifolia, (3) (horse brier, green brier. W. w-g. J. ♄.) prickles scattered: leaves (when in maturity) round-ovate, acuminate, slightly cordate, 5-nerved: berry spherical. *S.* B. T. D. N.

caduca, (W. J. ♄.) prickly: leaves ovate, mucronate, 5-nerved, membranaceous: general peduncles scarcely longer than the petioles. *S.* P. Y.

pseudo-china, (W. M. ♄.) unarmed in all parts: cauline leaves cordate: ramose ones oblong-ovate, 5-nerved: peduncles very long. *S.* Y.

Sium. Gr. *sion*, which De Theis takes from Celt. *sio*, water, from its habitation.

Smilax. Gr. *smilax*, of *smile*, a scraper, in allusion to its prickly stem. (1) denticulatum, E.? (2) glauca, Mx. (3) quadrangularis, W.

laurifolia, (Ju. ♄.) prickly: branches unarmed: leaves oval or lance-oval, leathery, recurve-prickly, 3-nerved, perennial: umbels short-peduncled. *S.* Y.

panduratus, Ph. (Ju. ♄.) prickly: leaves ovate-panduriform; acuminate, 3-nerved: peduncle twice as long as the common petiole. N. Jersey.

2. *Stems herbaceous.*

tamnoi'des, (Ju. ♄.) stem prickly, terete: leaves ovate-oblong, acute, sub-panduriform, obsoletely cordate, 5-nerved: common peduncle longer than the petiole. *S.*

peduncularis, (jacob's ladder. W. w-g. M. 2[.) stem terete, climbing or arching over: leaves round-ovate, cordate, acuminate, about 9-nerved: (sometimes but 7) umbels long-peduncled. Damp. 2—3 f. *S.* T. B. C. O. F. N. V.

herbacea, (bohea tea. W. g. J. 2[.) stem angled erect, simple: leaves long-petioled, oval, about 7-nerved: umbels with long compressed peduncles: berries depressed, globose. Damp. 2—3 f. *S.* P. C. O. M. F.

Southern.

hastata, W. (W. Ju. ♄.) stem angled, prickly: branches unarmed: leaves lanceolate, acuminate, hastate-auricled at the base, 3-nerved, prickly-ciliate on the margin. Var. *lanceolata*, leaves long, narrow, lanceolate.

bona-nox, (W. Ju. ♄.) stem unarmed, angled: leaves heart-ovate, acute, 7-nerved, prickly-ciliate.

walteri, Ph. (W. Ju. ♄.) prickly: leaves heart-ovate, smooth, 3-nerved: berries acuminate.

ovata, Ph. (Ju. ♄.) generally unarmed: leaves unarmed, ovate, acute, cuspidate, 3 nerved, both sides colored alike: common peduncle shorter than the petiole.

lanceolata, (J. ♄.) unarmed: leaves lanceolate and ovate, acute or acuminate, 3—5-nerved, very glabrous, perennial: umbels many-flowered: peduncles short.

alba, Ph. (J. ♄.) generally unarmed: stem obsoletely angled: leaves lance-elongated, coriaceous, glabrous, very entire, 3-nerved: umbels few-flowered, very short-peduncled.

pumila, Wr. (1) (S. ♄.) unarmed: leaves heart-ovate, entire, somewhat 5-nerved, soft-pubescent beneath: umbels short-peduncled: pedicels very short: berries oblong, acute: stem procumbent. Charleston, S. C.

cincidifolia, Ph. (W. ♄.) prickly: leaves unarmed, round-cordate, acuminate, 5-nerved, glabrous on both sides, net-veined, short-petioled.

Smyrnium, Sison, Cnidium, Zizia.*

5—1. Sola'num. 28. 38.

dulcama'ra, (bittersweet, woody night shade. W. b-p. Ju. ♄.) stem un-

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Solanum. Uncertain. Some derive it from Lat. *sol*, sun, and Greek *aneu*, without, having reference to the nightshade species.

*De Candolle has made this genus for our three common species of Smyrnium; to-wit, *aureum*, *integerrimum*, and *cordatum*.

(1) pubera, Mx.

armed, woody, climbing: lower leaves mostly cordate, glabrous; upper ones mostly guitar-hastate, few-flowered: corymbs opposite to leaves. This is the true bittersweet; but the Celastrus scandens is wrongly called so by some. Damp. T. B. C. F. N.

nigrum, (deadly nightshade. O. w. p. b. J. ☉.) stem unarmed, erectish or erect; branches angled, dentate: leaves ovate, repand, glabrous: racemes 2-ranked, nodding. ½—2 f. S.

carolinense, (horse nettle. W. b. ♃. ☉.) stem prickly: leaves oblong, tomentose, sinuate-angled, sub-hastate, prickly; racemes lax. 1—2 f. S. P. H. F.

flavidum, T. & J. (W.) suffruticose, densely tomentose: branchlets and calyx prickly: leaves solitary, oblong, obtusish: lower ones repand-sinuate; upper ones obsoletely sinuate: racemes opposite the leaves, about 3-flowered.

Exotic.

tuberosum, (potato. b. w. Ju. ♄.) stem wing-angled, unarmed: leaves interruptedly pinnate; leafets entire: flowers sub-corymbed: roots knobbed-tuberous. Cultivated.

lycoper'sicum, (love apple, tomatoes. y. S. ☉.) stem unarmed: leaves pinnatifid, gashed: racemes 2-parted, leafless: fruit glabrous, torulose.

melonge'na, (egg-plant. J. ☉.) stem unarmed: leaves ovate, tomentose: peduncles pendant, incrassate: calyx unarmed.

pseudo-capsicum, (jerusalem cherry. ♄.) stem woody: leaves lanceolate, repand: umbels sessile.

Southern.

mammosum, (y. Ju. ☉.) stem prickly, herbaceous: leaves cordate, lobe-angled, villose on both sides, prickly.

virginianum, (b. Ju. ☉.) stem erect, prickly: leaves pinnatifid, prickly on both sides: divisions sinuate, obtuse: margin ciliate: calyx prickly.

triflorum, N. (W. w. Ju.) stem unarmed, herbaceous, procumbent: leaves tooth-pinnatifid, smooth: divisions acute, sub-undulate: margin sub-revolute: peduncles opposite the leaves, 2—3-flowered. 1 f.

james'ii, T. (W. w.? ☉.) herbaceous, somewhat pilose: stem unarmed, erect: leaves unequally pinnate; leafets lance-ovate, abruptly narrowed at the base, obsoletely sinuate: racemes few-flowered, a little out of the axils.

verbascifolium, W. (♄.) stem unarmed, fruticose: leaves ovate, tomentose, very entire: corymbs 2-cleft, terminal.

hirsutum, N. (p. ♃.) small; pilose hirsute: leaves broad-obovate, very obtuse, sub-entire, attenuated at the base; ribs aculeolate, raceme somewhat 3-flowered: peduncles filiform. Georgia.

Solea, IONIDIUM.

17—2. SOLIDA'GO. (1) 49. 55.

1. *Flowers one-sided. Leaves with three combined nerves.*

canadensis, (canadian golden-rod. O. y. Ju. ♃.) stem downy: leaves

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Solidago. Lat. *solido*, to make firm, from its consolidating or astringent qualities.

(1) In this troublesome genus most of the extensive and accurate de-

lanceolate, serrate, rough: racemes copious panicled, recurved: rays hardly longer than the disk: stem angular: leaves sessile, three inches long, sometimes nearly entire. 2—5 f. *S.*

pro'cera, A. (great golden-rod. O. y. Ju. 2*f*.) stem villose, erect: leaves lanceolate, serrate, rough, villose beneath: racemes spike form, erect, drooping before flowering: rays short. 4—7 f. *S.*

serotina, W. (smooth golden-rod. O. y. S. 2*f*.) stem erect, terete, smooth: leaves lance-linear, glabrous, serrate, rough-edged: racemes panicled: peduncles downy. The young leaves are edged with many little stiff white hairs.

gigantea, (giant golden-rod. O. y. Au. 2*f*.) stem erect, glabrous: leaves lanceolate, smooth, serrate, rough-edged, obscurely 3-nerved: racemes panicled: peduncles rough haired: rays short. 4—7 f. *S.*

ciliaris, W. (fringed golden-rod. O. y. 2*f*.) stem erect, glabrous: leaves lanceolate, somewhat 3-nerved, glabrous, rough-edged, slightly serrate: racemes panicled; peduncle glabrous: bracts ciliate: rays short. The stem is angular: radical leaves petioled, oval, pointed, veiny, serrate, rough, near a foot long: branches of the panicle spreading: bracts minute.

reflexa, W. (hang leaf golden-rod. y. Au. 2*f*.) stem erect, villose: leaves lanceolate, sub-serrate, scabrous, reflexed: racemes panicled, very little one-sided, reflexed. *S.* P. Y.

lateriflora, (side-flowered golden-rod. y. Au. 2*f*.) stem erect, a little hairy: leaves lanceolate, slightly 3-nerved, glabrous, rough-edged; lower ones sub-serrate: racemes panicled, a little recurved, sub-secund: flowers large, the rays being much longer than the calyx: stem striated, often purplish, pinnatifid, with numerous lateral flowering branches. 2—3 f. *S.* P. Canada.

2. *Racemes or flowers one-sided. Leaves veiny.*

as'pera, A. (rough golden-rod. y. Au. 2*f*.) stem erect, terete, hairy: leaves ovate, somewhat oval, very rough, rugose, serrate: racemes panicled: leaves one to two inches long, acute: racemes dense, somewhat conic: ray-florets twice as long as the calyx. 3—4 f. *S.* P. Y. C. F.

altissima, W. (variable golden-rod. O. y. Au. 2*f*.) stem erect. rough-haired: leaves lanceolate; lower ones deeply serrate, scabrous, rugose. The panicled racemes are very numerous and spread every way, so as to bring the one-sided flowers upwards: rays half as long again as the calyx. But this species is so variable, that students generally endeavor to make several species of it. The serratures of the leaves are equal and unequal; it is hairy or villose: and sometimes racemes diverge but little. 3—6 f. *S.*

rugosa, W. (wrinkled golden-rod. O. y. Au. 2*f*.) stem erect, rough-haired: leaves lanceolate, scabrous, rugose: lower ones with close-pressed serrature: racemes panicled, very spreading. Leaves shorter and broader than the last, and the flowers a little smaller; like it very variable, and perhaps only one of its numerous varieties. 3—6 f. *S.*

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scriptions of President J. E. Smith are given. He took a review of Pursh and of all preceding writers, and then wrote, with specimens of almost every species before him.

scabra, W. (harsh golden-rod. O. y. Au. 2f.) stem erect, rough-haired, furrowed: leaves oblong, tapering to both ends, acuminate, glabrous above, rugose, and scabrous beneath, along the middle close-pressed-serrate. 2—5 f. *S.*

nemoralis, A. (woolly golden-rod. W. y. Au. 2f.) stem erect, downy: cauline leaves lanceolate, hispid, entire; radical ones somewhat wedge-form, serrate; racemes panicled. Of a grey aspect. 1—3 f. *S.* T. B. P. F. V. Canada.

patula, M. (spread golden-rod. O. y. S. 2f.) stem erect, glabrous: leaves oval, serrate, glabrous: radical ones oblong spatulate: racemes panicled, spreading: peduncles pubescent. Stem wand-like, angular and striate: stem-leaves sessile, about an inch long, pointed: the radical ones resemble those of the ox-eyed daisy: racemes about an inch long: flowers rather large. 2 f. *S.*

ulmifolia, M. (elm golden-rod. O. y. Au. 2f.) stem erect, glabrous, striate: leaves oval, deeply serrate, acuminate, villose beneath; radical ones obovate: racemes panicled: peduncles villose: rays short. Radical leaves resemble those of the last species, and are hairy both sides, some of the rest are oblong-ovate and only villose near the veins beneath: the petioles are bracted. 3—4 f. *S.*

arguta, A (sharp-notch golden-rod. O. y. S. 2f.) stem erect, glabrous: leaves glabrous, sharply and unequally serrate; cauline ones oval, radical ones oblong-ovate; racemes panicled: rays elongated. 2—3 f. *S.*

juncea, (rush-stalk golden-rod. y. Au. 2f.) stem erect, glabrous: leaves lanceolate, glabrous, rough-edged: lower ones serrate: racemes panicled. Stem brownish, somewhat angular and striate, leafy; racemes a finger's length, dense, recurved-spreading: compound pedicels roughish, bracted; rays twice as long as the calyx. 2—3 f. *S.* P. C.

elliptica, W. (1) (oval-leaf golden-rod. y. Au. 2f.) stem erect, glabrous: leaves oval, smooth, serrate: racemes panicled: rays of middling length. 2—4 f. *S.* P. Y. F.

asperata, Ph. (2f.) stem corymb panicled: racemes erectish: flowers ascending: leaves lanceolate, serrate, scabrous. Described by Pursh from dried specimens.

recurvata, W. (curved golden-rod. W. y. S. 2f.) stem erect, pubescent: leaves lanceolate, serrate, rough-edged; racemes elongated, recurved-panicled. *S.* P. C.

sempervirens, (narrow-leaf golden-rod. y. S. 2f.) stem erect, glabrous: leaves lanceolate, somewhat fleshy, smooth, entire, rough-edged: racemes panicled: peduncles hairy: stem tall, purplish, a little glaucous: leaves many, narrow, long: ray florets long, narrow, rather numerous. 3—5 f. *S.* P. Y. C. Canada.

odora, W. (sweet-scented golden-rod. O. y. Au. 2f.) stem erect, pubescent: leaves lance-linear, entire, glabrous, rough-edged: racemes panicled. The upper part of the stem is furrowed: racemes 2 or 3 inches long, spreading horizontally, each generally accompanied by a leaf; bracts oblong, smooth: stalk angular and rough. This is the true golden-root tea-plant. 3 f. *S.*

villosa, Ph. (y. S. 2f.) stem erect, villous: leaves lanceolate, rather

(1) latissimifolia, Miller.

soft, serrate, nerveless: racemes panicled, one-sided. Stem robust: branches recurved, expanding. 2—3 f.

uliginosa, N. ( ) very glabrous: racemes erectish, short-panicled, sub-fastigiate: stem simple, attenuate: leaves unequal: cauline ones entire, lance-linear, sessile; inferior and radical ones appressed-serrulate, lance-oblong, irregularly attenuated, petioled. Sphagnus swamps, Mass.

3. *Racemes erect.*

specio'sa, N. (y. S. 2f.) stem tall, smooth: branches virgate: leaves lanceolate, sub-coriaceous, scabrous on the margin; lower ones sparingly serrate: racemes erect, compound: peduncles pubescent: florets of the ray five, long: seed glabrous. 3—6 f. *S.*

virgata, Mx. (y. Au. 2f.) stem simple, smooth: leaves lanceolate, somewhat wedge-shape, obtuse, entire, glabrous, close-pressed: upper ones gradually smaller: branches of the panicle elongated, with terminal clusters: peduncles smooth, one-sided. Slender. 2 f. *S.* C.

bi'color, (white golden-rod. O. w. Au. 2f.) stem hairy: leaves oval, hairy; lower ones serrate; those on the flower branches entire, numerous and small: scales of the calyx obtuse. Racemes are short and compact: rays white, somewhat numerous and shortish; disk-florets rather numerous. 2—4 f. *S.*

petiolaris, W. (late golden rod. y. Oc. 2f.) stem erect, villose: leaves oval, roughish, petioled: rays twice as long as the calyx. Stem branching, terete, hoary: leaves hoary about the ribs, over an inch in length, those covering the flower-branches sub-entire: racemes numerous, short, with few and rather large flowers. 2—3 f. *S.* P. Y.

stricta, (willow-leaf golden-rod. W. y. Au. 2f.) stem erect: glabrous: cauline leaves lanceolate, entire, glabrous, rough-edged; radical leaves serrate: racemes panicled, erect: peduncles glabrous. The branches of the panicle are erect, simple, close. 2 f. *S.* P. Y. C. N.

confertiflora, N. (y. 2f.) robust: stem erect, branching, pubescent: leaves smoothish; lower ones very broad, spatulate-oval, serrate, acute, margin scabrous; the upper ones sessile, lance-oval, entire: racemes compound, erect: calyx squarrose, many-flowered: ray florets long. (10 or 12,) 2—5 f. *S.* P. Y. N.

graminifolia, (1) (grass-leaf golden-rod. O. y. S. 2f.) stem (rough-haired, Willd.) very furrowed, smoothish: leaves almost linear, (lance-linear, Willd.) entire, roughish, nearly erect, with 3 or 5 rough nerves: corymbs terminal, level topped: flowers in heads: rays not longer than the disk. Stem leafy: leaves sessile, grass green, about 2 inches long, and a quarter of an inch wide: flowers smallish: calyx ovate, smooth, shining, with tumid green-tipped scales. 4—5 f. *S.*

tenuifolia, Ph. (2) (pigmy golden-rod. W. y. S. 2f.) stem rough, angular, branched, corymbed: leaves spreading, linear, very narrow, slightly 3-nerved, scabrous, with axillary tufts of smaller ones: corymbs terminal, level topped: flowers in heads: rays scarcely exceeding the disk. Leaves very small and narrow. 1—2 f. *S.* Y. P.

cae'sia, W. (blue-stem golden rod. W. y. Au. 2f.) stem nearly erect,

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(1) lanceolata, A. Chrysocoma, L. Euthamia, N.
(2) lanceolata, Var. minor, Mx.

very smooth and even: leaves lanceolate, glabrous acuminate with the margin and nerves roughish: rays rather longer than the disk. Stem upright, somewhat zigzag, branched, leafy: leaves about two inches long, sub-entire, sub-glaucous, paler beneath: racemes numerous, short, rough-pedicelled: bracts small, smooth, subulate. 2—3 f. *S.*

livida, W. (purple stem golden rod. y. S. 2*f*.) stem glabrous, panicled: leaves lanceolate, serrate, glabrous, rough-edged: branches racemed at the extremity: rays elongated. Stem branched, dark purple: leaves tapering to both ends. *S.* P. N.

hispida, W. (O. y. Oc. 2*f*.) stem erect, hispid, scabrous: leaves lanceolate, rough, entire; radical ones serrate: rays of middling length. Resembles the *cæsia*. *S.*

lithospermifolia, W. (y. S. 2*f*.) stem branching, pubescent: leaves lanceolate, scabrous on both sides, tapering, 3-nerved, entire: ray-florets elongated. *S.*

puberula, N. (y. 2*f*.) stem simple, terete, sub-pubescent: leaves lanceolate, entire, slightly pubescent both sides, tapering to both ends; radical ones sub-serrate: racemes spiked, axillary, erect and condensed: peduncles pubescent: scales of the calyx lance-linear, acute: ray florets about 10, elongated. Stem brownish, simple pubescent. 1—2 f. *S.* Y.

læ'vigata, A. (flesh-leaf golden rod. y. S. 2*f*.) stem erect, smooth: leaves lanceolate, fleshy, entire, smooth in every part: racemes panicled: peduncles scaly, villose: rays twice as long as the calyx. Tall, strong. Probably a variety of *mexicana*. Grows in salt marshes. 4—6 f. *S.* P. Y. B. C.

limonifolia, P. (1) (y. S. 2*f*.) stem oblique, glabrous: leaves lanceolate, somewhat fleshy, entire, smooth on both sides: racemes panicled, erect: peduncles scaly, glabrous or sub-pubescent: ray-florets elongated. Stem generally purple: leaves somewhat clasping; lower ones a foot long. Wet. 3—5 f. *S.*

vimin'ea, W. (2) (twig golden-rod. y. Au. 2*f*.) stem erect, sub-pubescent: leaves lance-linear, membranaceous, tapering to the base, glabrous, rough-edged; the lower ones sub-serrate: rays elongated. Peduncles and branches angular, and very rough: bracts lanceolate, recurved, smooth: flowers numerous. *S.* P. Canada.

macrophylla, Ph. (y. Au. 2*f*.) lower leaves ovate, acuminate tapering, unequally and sharply serrate, glabrous: cauline leaves tapering to both ends, lanceolate, sub-sessile, serrate: racemes axillary, pedunculed, leafy, of the length of the leaves: calyx oblong, turgid, many-flowered: rays somewhat elongated. Intermediate between this genus and the aster. 2—3 f. T. B. Canada.

flexicaulis, Ph. (zigzag golden rod. W. y. Au. 2*f*.) stem zigzag, glabrous, angled: leaves lanceolate-acuminate, serrate, glabrous: racemes axillary: rays half as long again as the calyx. Stem slender, purplish, partly terete and partly angular: leaves numerous on short broad petioles, hardly 2 inches long, and half an inch wide, paler beneath; the upper less serrate: racemes much shorter than the leaves, the upper ones sub-capitate. 2—3 f. S.

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(1) mexicana, L. (2) integerrima, Miller.

latifolia, M. (1) (broad-leaf golden-rod. W. y. Au. 2f.) stem somewhat zigzag, angular, smooth: leaves ovate-acuminate, strongly serrate, smooth contracted into winged petioles: racemes axillary. Leaves often 2 inches broad, and sometimes hairy on the under side of the midrib. W. T. Y. P. C. O. N.

axillaris, Ph. (2) (axil golden-rod. W. Au. 2f.) stem glabrous, terete, straight: leaves lanceolate, serrate, glabrous: racemes axillary, subglobose, erect: ligulate florets elongated. T.

virgau'rea, (european golden-rod. y. 2f.) stem flexuous, angular, pubescent: leaves serrate, roughish, attenuated at the base: racemes erect, panicled, close: rays elongated. Flowers large: rays 5—10; upper leaves nearly entire. 1—3 f. Var. *alpina*, leaves obovate or lanceolate, mostly entire: flowers few. 3—6 i. This species is the only one common to the two continents, Bw. White Mts. D.

multiradiata, W. (y. S. 2f.) stem somewhat villose: leaves sessile, lanceolate, glabrous, ciliate: lower ones serrate at the apex: raceme terminal, erect: rays elongated, numerous. Labrador.

rigida, (hand-leaf golden-rod. W. y. Au. 2f.) stem corymbed, hairy, scabrous, leaves ovate-oblong, rough, with minute, rigid hairs; lower ones serrate, upper ones entire: racemes compact: rays twice the length of the obtuse calyx. Stem terete, striate, leafy: leaves a little hoary; radical ones petioled, 12 inches long, broad, acuminate, nerved; the rest 1 to 4 inches long: scales of the calyx round-obtuse, nerved, membranaceous at the edges. 3—5 f. *S.* P. Y. C.

noveboracensis, (star golden-rod. y. Oc. 2f.) radical leaves oval-oblong, long-petioled, rough: stem almost leafless, branched, furrowed, level-top corymbed: rays twice as long as the tapering calyx. Stem strong, rough, furrowed, having leaves only at the origin of the flowering branches: radical leaves with shallow serratures: flowers large, resembling in form some asters: calyx scales narrow, purplish. 2—3 f. Y. N.

Southern.

1. *Racemes one-sided.*

cinerascens, Sz. (y. S. 2f.) stem erect, slender, pubescent: leaves elongated, lance-linear, attenuate at the base, serrate, sub-scabrous on both sides: racemes recurved: peduncles and ray-florets elongated. Upper leaves small, distant. 3 f.

retrorsa, Mx. (y. S. 2f.) stem erect, terete, glabrous, (rough, S.) leaves closely sessile, linear, tapering above, glabrous, pellucid-punctate, reflexed, rough on the margin: branches of the panicle recurved. Stem pubescent above: leaves somewhat clasping, slightly mucronate. 3—4 f.

tortifolia, E. (3) (y. S. 2f.) stem erect, pubescent: leaves lance-linear, sub-serrate, spreading, twisted; midrib and upper surface scabrous, nearly glabrous beneath: panicle pyramidal: racemes recurved. Stem very pubescent above: leaves sometimes pubescent beneath, obscurely 3-nerved: panicle very compact. 3 f.

pyramidata, Ph. (y. S. 2f.) stem erect, terete, hispid: leaves oblong,

(1) flexicaulis, Mx. 1st variety. Var. latifolia, P. (2) flexicaulis, Mx. 3d variety. (3) odora, Mx.

acute, somewhat clasping, sessile, glabrous, scabrous on the margin, rarely and obsoletely toothed: panicle naked, secund, pyramidal: branches reflexed: peduncles glabrous. 4—6 f.

corymbosa, E. (y. S. 2ℓ.) stem erect, glabrous, branches hispid: lower leaves lance-oblong; upper ones ovate; all fleshy, glabrous, rigid, scabrous and ciliate on the margin: racemes corymbed; lower ones recurved: ray-florets elongated. Stem robust: leaves close-sessile; lower ones sub-dentate; upper ones generally entire. 4—6 f.

pitcheri, N. ( ) racemes secund; glabrous: leaves conformable, smooth, thickly set, lance-oblong, acuminate at both ends, sharply serrate: panicle pyramidal, shortish, few-flowered: pedicels pubescent: liguli abbreviated. Arkansas.

radula, N. ( ) racemes erectish; finely pubescent; scabrous: leaves oblong, sessile, entire, sub-reticulate, thick below: panicle contracted, sub-racemed: scales of the calyx oblong: liguli very short. Arkansas.

lanata, H. ( ) wholly arachnoid woolly: leaves lance-spatulate, appressed-serrate; lower ones petioled; upper ones small, very entire: racemes erect, terminal, sub-simple: leafets of the calyx obtuse, sub-glabrous. R.

2. *Racemes erect.*

pubescens, E. (y. Oct. 2ℓ.) stem erect, branching, pubescent: leaves long, lanceolate, tapering at the base, pubescent; lower ones serrate: racemes erect, panicled: ray-florets middle size. Stem slightly scabrous, generally colored: branches rigidly erect; upper leaves generally entire; lower ones almost spatulate. 3—4 f.

pauciflosculosa, Mx. (y. S. 2ℓ.) glabrous: suffruticose: leaves lanceolate, obtuse, nerveless: panicle compound, many-flowered; fascicles erect: calyx oblong, 5-flowered: ray-floret one.

pulverulenta, N. (y. 2ℓ.) stem simple: stem and leaves pulverulent-pubescent: leaves sessile; lower ones oval, serrate; upper ones obovate, entire, scabrous on the margin: racemes erect, spike-form: ray-florets (10,) elongated. The lower leaves somewhat resemble those of the Spiraea salicifolia, E. 3—4 f.

erecta, Ph. (y. S. 2ℓ.) stem simple: stem and peduncles pubescent; leaves lanceolate, acute at each end, glabrous, veiny, scabrous on the margin: racemes short, erect: axillary and terminal. There is great uncertainty about this species. E. 2 f.

hirta, W. (y. 2ℓ.) stem panicled, rough: leaves lanceolate, scabrous on both sides; cauline ones serrate; branch ones very entire: racemes erect: rays elongated.

glomerata, Mx. (A. y. 2ℓ.) stem low, simple: leaves glabrous, lance-oblong, serrate: racemes simple, composed of axillary glomerules; upper ones clustered: calyx turgid, many-flowered. Lower leaves broad-oval, acuminate, serrate. Nearly allied to Aster. N.

hu'milis, Ph. (y. 2ℓ.) stem simple, erect, glabrous: leaves lanceolate, serrate, glabrous, attenuate at the base, elongated: racemes erect.

elata, Ph. (y. S. 2ℓ.) stem terete, pilose, tomentose above: leaves lance-oval, acute, sub-entire, veiny, tomentose beneath: racemes erect, panicled: rays elongated. Leaves sessile, rather small, with elevated veins. 2—3 f.

salicina, E. (y. S. 2ℓ.) stem tall, slender, pubescent above, a little sca-

brous: branches virgate, elongated, erect: leaves lanceolate, very scabrous above, glabrous beneath; lower ones serrate: racemes subsecund: branches short, sometimes recurved. Stem when old nearly glabrous, generally colored: leaves sessile, diminishing upwards; lower ones paler beneath. 4—5 f.

angustifolia, E. (y. S. 2f.) stem erect, glabrous: leaves subulate-linear, very entire, glabrous: racemes erect, panicled: ray-florets middle size. Stem slender: branches numerous: leaves sessile, sometimes lance-linear, slightly scabrous on the margin. 2—3 f.

missouriensis, N. ( ) small; glabrous: racemes erect: leaves lance-linear, acute, gash-sub-serrulate; upper ones entire: panicle short, lax: flowers largish. 1 f. Arkansas.

cordata, Short & Peter. (y. Au. 2f.) stem striated, pubescent: lower leaves petioled, cordate, sharply and irregularly serrate, acute; upper ones ovate, gradually becoming sessile and entire; radical leaves broad-cordate and serrate: spikes axillary and terminal, densely flowered: leafets of the calyx lanceolate, obtuse, appressed. 2—4 f. K.

ohioensis, Riddell. (y. Oc. 2f.) stem simple: radical leaves (when they precede the stem) on long equitant petioles, oblong, retuse, acute and entire at the base, serrate towards the summit; margins scabrous; cauline leaves entire, half clasping, lanceolate, acute: corymb fastigiate. Wet grassy prairies, Ohio.

riddellii, Frank. (y. Sept. 2f.) leaves very entire, glabrous, scabrous at the margin; lower and radical leaves very long-petioled, sub-falcate-lanceolate, sub-acute, distinctly 5-nerved; upper ones sheathing, lance-oblong, acutish, obsoletely nerved: petioles carinate, equitant: stem glabrous, striate, corymb-panicled: racemes or fascicles 3-flowered: scales of the calyx obtusely ovate, half as long as the liguli: pedicels bracted, sub-villose. 2 f. O.

squarrosa, N. (y.) pulverulent; finely pubescent: racemes lax, few-flowered, axillary, panicled, flowers largish: liguli elongated: leafets of the calyx reflexed: leaves oblong-ovate, entire, sub-sessile; lower ones obovate, sub-serrate.

hirsuta, N. ( ) sub-pilose: racemes erect; stem simple: flowers sub-racemose-glomerate: leaves scattered, elliptic-ovate: radical ones spatulate, crenulate. K.

17—1. SON'CHUS. 49. 53.

arvensis, (corn sow-thistle. W. y. Au. 2f.) calyx and peduncles hispid, sub-umbelled: leaves runcinate, denticulate, cordate at the base: root creeping. P. Y. C. F.

oleraceus, (common sow-thistle. O. y. Ju. ☉.) peduncles sub-tomentose, umbelled: calyx glabrous: leaves lance-oblong, clasping, denticulate, sub-sinuate. Var. *aspera*, prickly. Perhaps introduced. 2—5 f. S.

macrophyllus, W. (W. b. Au. 2f.) peduncles hirsute, naked: flowers panicled: leaves large, lyrate, cordate at the base, hirsute beneath. 4—7 f.

spinulosus, Bw. (W. L. y. Au. ☉.) peduncles smooth, somewhat umbelled: leaves cordate at the base, oblong clasping, waved, spinose. 2 f. T. B.

Sonchus. Gr. *sogchos*, the ancient name of this plant.

alpinus, W. (1) mountain sow-thistle. b-w. Au. 2f.) peduncles hirsute, naked: flowers racemed, bracted: leaves runcinate, sagittate at the base, glabrous, glaucous beneath. Canada.

leucophæ'us, W. (2) (sow-thistle. W. b-w. Ju. ♂.) peduncles scaly: flowers racemed: leaves runcinate, acuminate: stem wand-panicled. 3—5 f. *S.* P. N. F. K.

floridanus, W. (W. b. Ju. ♂.) peduncles somewhat scaly: flowers panicled: leaves runcinate-lyrate, petioled, denticulate. Pursh says this is called *the gall of the earth*, and is used for curing the bite of the rattlesnake: but Mr. Elliot applies that name to the *Prenanthes alba;* the root of which he says is very bitter. 3—6 f. *S.* P. Y.

acuminatus, W. (W. b. Au. ♂.) peduncles somewhat scaly: flowers panicled: radical leaves sub-runcinate; cauline ones ovate, acuminate, petioled, denticulate in the middle. 3—4 f. *S.* P. Y. B.

pallidus, W. (3) (W. y. Ju. 2f.) flowers in a compound terminal raceme or panicle: leaves lance-ensiform, clasping, toothed. F.

Southern.

ludovicianus, N. (W. y. J.) leaves all runcinate, retrorsely and sharply toothed: peduncles and calyx naked: panicle divaricate. Chaff conspicuously stiped. N. 3—5 f.

carolinianus, Wr. (y. Au. ☉.) stem erect, glabrous: leaves lanceolate, acute, undulate, sub-spinose-toothed, auricled at the base, half-clasping, flowers somewhat umbelled. 1—3 f.

sibiricus, Lin. (b. ☉.) leaves lanceolate, sessile, glabrous, very entire, dentate, or runcinate-pinnatifid: peduncles squamulose, panicled, and with the calyx glandulous-hispid. D. A. R.

Sonchus, LACTUCA.

10—1. SOPHO'RA. 32. 93.

Southern.

sericea, N. (W. w. 2f.) leaves pinnate; leafets wedge-oval, smooth above, silky-villose beneath: spikes many-flowered, sub-sessile. 1 f.

Sophora, BAPTISIA.

11—5. SOR'BUS. 36. 92.

americana, W. (4) (mountain ash. A. w. M. ♄.) leaves pinnate; leafets acute, somewhat equally serrate, glabrous; general petiole glabrous. Berries purple. 10—20 f. W. N. D. Wachusett Mt.

microcarpa, Ph. (A. J. ♄.) leaves pinnate; leafets acuminate, unequally gash-serrate, glabrous; serratures setaceous-mucronate: common petiole glabrous. Berries scarlet. *S.*

Sophora. An alteration of the Arabic name *sophera;* the name of a beautiful tree.

Sorbus. Lat. *sorbeo*, to suck, because the bark is considered as a valuable absorbent in consumptions.

(1) montanus, Lk. cœruleus, S. canadensis, L. (2) spicatus, Lk. (3) Lactuca canadensis, L, (4) aucuparia, Mx.

3—2. SORG'HUM. 4. 10.

Exotic.

saccharatum, (broom corn. y-g. Au. ☉.) panicle somewhat whorled, spreading: seeds oval: glumes covered with permanent softish hairs: leaves linear. From the East Indies. 6—8 f.

vulgare, (indian millet, coffee corn. 2ſ.) panicle compact, oval, nodding when mature: seed naked, sub-compressed. Var. *bicolor*, glumes glabrous, black: seed globose. 5—7 f.

19—3. SPARGA'NIUM. 3. 8.

ramosum, Sw. (1) (bur-reed. O. w. Ju. ☉.) the 3-sided bases of the leaves concave on the two outsides: the general fruit stem branched: stigma linear. In water generally. Flowers in round heads: the staminate heads above the pistillate ones, and considerably the smallest. 1—2 f. *S.**

americanum, N. (2) (lake bur-reed. W. w.) lower leaves about equalling the length of the stem: floral leaves concave at the base, erect: stigma simple, ovate-oblong, oblique, about half as long as the style. The stem is erect, nearly simple. Grows plentifully in a small swamp in Troy, about a mile east of Rensselaer School. 1 f. *S. T. C. P. F.*

angustifolium, Mx. (3) (floating bur-reed. W. w. Au. 2ſ.) leaves flat, long-linear, very narrow, much longer than the stem, weak; the part above water floating on its surface. Grows in great abundance in the little Lake on Catskill mountain, 12 miles west of the village, near the Mountain House. *P. B. N.*

17—1. SPARGANOPH'ORUS. 49. 55.

verticillatus, Mx. (water crown-cup. p. Au. 2ſ.) leaves linear. heads few, terminal: egret campanulate, 5-toothed. Floating in water. 1 f. *S. Y.*

Spartina, LIMNETIS.

16—10. SPA'RTIUM. 32. 93.

Exotic.

junceum, (spanish broom. J. ♄.) branches opposite, wand-like, bearing flowers at the end: leaves lanceolate, glabrous.

Sorghum. Sorghi is the Indian name according to Bauhin.

Sparganium. Gr. *sparganon*, a band or fillet, alluding to the long linear form, and pliant texture of the leaves.

Sparganophorus. Gr *sparganon*, a fillet, and *phero*, to bear, because the seed is crowned with a membranous band.

Spartium. Gr. *spartion*, a rope, because of the use made of its branches in making cordage.

(1) erectum, L. (2) simplex, Ph.? (3) natans, Var. *a.* Ph.

*Mr. Elliott describes a plant under *americanum?* which does not agree with that plant in the vicinity of Troy. I have before me all the three species here described and have often seen them growing. The plant of E. cannot possibly be either of them unless it is the *ramosum*. I do not believe that the *simplex* is an American plant.

scoparium, (scotch broom. J. ♄.) leaves ternate and solitary, oblong: flowers axillary: legumes pilose at the margin: branches angular.

5—1. SPECULA'RIA. 29. 52.

amplexicaulis, O. & ***speculum***, Exotic, described under Campanula.

10—5. SPER'GULA. 22. 82.

arvensis, (corn spurry. W. w. J. 2ſ.) leaves filiform, whorled: panicle dichotomous: peduncles become reflexed as the fruit advances to maturity: seed reniform. 8—12 i. *S.* R. T. W. C. F. N.

saginoides, (1) (pearl spurry. w. J. 2ſ. or ☼.) glabrous: leaves opposite, subulate, naked: peduncles solitary, very long. Persoon asks whether this is not a variety of the Sagina procumbens. 2—3 i. *S.* C. F. New Jersey.

nodosa, Hk. (W.) leaves subulate, opposite, glabrous, connate; lower ones sheathing, upper ones proliferous in the axils: petals twice as long as the calyx. Canada. N. W. Lakes.

subulata, Hk. (W.) glabrous or sub-pubescent: leaves narrowly linear-subulate, mucronate: peduncles long, solitary: petals equalling the calyx and capsule. R.

4—1. SPERMACO'CE. 48. 57.

Southern.

tenuior, (w. Ju. ☼.) stem erect, glabrous: leaves lanceolate, scabrous above, nearly glabrous beneath: flowers whorled: seeds rough. Stem sometimes pubescent and flowers nearly solitary. Swartz.

glabra, Mx. (W. w. J. ☼.) stem procumbent, glabrous: leaves lance-ovate, glabrous on both sides: flowers whorled: seeds glabrous.

hispida, Ph. (w.) stem very hispid: branches alternate: leaves [illegible], acuminate, hirsute on both sides: stipules many-bristled: [illegible]s terminal, involucred: stamens exsert. 1 f.

laxiantha, Raf. ( ) stem weak; branches diffuse: leaves sessile, oblong, acute; nerves scabrous: flowers verticillate: corol woolly within. Louisiana.

5—1. SPIGE'LIA. 47. 46.

marylandica, (pink-root. W. p. J. 2ſ.) stem 4-sided: leaves all opposite, sessile, lance-ovate, entire. A celebrated vermifuge. 9—16 i. *S.* P. Florida.

20—5. SPINA'CIA. 12. 29.

Exotic.

olera'cea, (spinach. J. ☼.) fruit sessile, prickly or unarmed: leaves has-

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Specularia. Lat. *speculum*, a mirror; the old name of the leading species in the genus, called Venus' looking-glass.

Spergula. Lat. *spergo*, to scatter, from the dispersion of its seeds.

Spermacoce. Gr. *sperma*, seed, and *akōke*, a sharp point; the seeds having two remarkable points.

Spigelia. In honor of Adam Spigelius, an old botanist of considerable note.

Spinacia. Lat. *spina*, a thorn, from the processes of the seed.

(1) decumbens, E.

tate-sagittate: stem branched. In habit resembles the Chenopodium album. 1—2 f.

11—5. SPIRÆA. 36. 92.

1. *Stem more or less woody.*

salicifolia, A. (1) (meadow-sweet, willow hard-hack. O. r. w. J. ♄.) leaves lance-ovate or obovate, serrate, glabrous: flowers in panicled spreading racemes. Var. *alba*, has white petals, and generally the twigs are reddish. The small branches are generally killed by frost in the winter, as also of the next species. 2—4 f. *S.*

tomentosa, (steeple bush, purple hard-hack, meadow sweet. O. r. Ju. ♄.) leaves lanceolate, unequally serrate, downy beneath: racemes in a crowded, sub-panicled spike. 2—3 f. *S.*

hypericifolia, (john's-wort hard-hack. w. M. ♄.) leaves obovate, entire or toothed at the apex: umbels sessile. Cultivated. 3 f. P. Canada.

chamaedrifolia, Lin. ( ) leaves ovate or oval, unequally serrate, rarely sub-lobed, sub-glabrous: corymbs hemispheric, peduncled: pedicels and reflexed lobes of the calyx pubescent. Var. leaves elliptic, obtuse, glabrous or sub-pubescent. A. Canada.

douglasii, H. (r.) branches and peduncles pubescent: leaves elliptic, coarsely and unequally serrate above, hoary-tomentose beneath: panicle crowded, oblong, obtuse: flowers small: stamens twice as long as the corol: lobes of the calyx triangular, reflexed: carpellae 5, very glabrous, shining. A.

menziesii, H. (r.) branches above, peduncles and calyx triangular, reflexed, smoothly pubescent: leaves elliptic coarsely and unequally serrate above, similar colored and glabrous beneath: panicle crowded, oblong, obtuse, flowers small: stamens twice as long as the corol. A.

corymbosa, R. (A. r-w. ♄.) leaves oblong-obovate, gash-toothed, pubescent beneath: corymb terminal, peduncled, compound, fastigiate, somewhat leafy. This may be the *chamaedrifolia* of Pursh, but probably not of L. Torrey.

crenata, (♄.) leaves obovate, acute, tooth-crenate at the apex: corymbs peduncled, crowded. Y. H.

opulifolia, (nine-bark, snowball hard-hack. W. w. J. ♄.) leaves sub-ovate, lobed, doubly-toothed or crenate, glabrous: corymbs terminal, crowded: capsules inflated: flowers trigynious. Wet. 3—5 f. S. T. C. P. D.

capitata, Ph. (W. J. ♄.) leaves ovate, somewhat lobed, doubly toothed, reticulate beneath, tomentose: corymbs terminal, crowded, sub-capitate, very long-peduncled: calyx tomentose.

sorbifolia, Ph. (W. w. Au. ♄.) leaves pinnate; leafets uniform, serrate: flowers panicled.

mo'nogy'na, T. & J. (W. ♄.) leaves broad-ovate, sub-3-lobed, gash-serrate, glabrous: corymbs umbelled: style one: pedicels glabrous: divisions of the calyx ereet, spreading: germs villose. *S.*

Spiræa. Gr. *speiron*, spiral coil, in allusion to the spire-like inflorescence of some species.

(1) alba, M.

2. *Stem herbaceous.*

aruncus, W. (steeple-weed. W. A. w. J. 2f.) leaves 2—3-pinnate: flowers in a panicled spike: styles 3 to 5. Var. *americana*, has very long slender spikes. 4—6 f. *S.* P. M. Catskill.

lobata, (W. r. Ju. 2f.) leaves pinnate, glabrous; the odd leafet large, 7-lobed: lateral ones 3-lobed: corymbs proliferous. P.

dis'color, Ph. (W. Ju. ♄.) leaves ovate, sub-lobed, toothed, obtuse, white-tomentose beneath, smooth above, short-petioled: panicle terminal, very branching; branches white-pubescent: calyx and germs villose.

betulifolia, Pall. (W. A. r. J. ♄.) leaves broad-ovate, gash-toothed, glabrous: corymbs terminal, compound, fastigiate, leafy. 1 f.

Exotic.

ulmaria, (queen of the meadow. w. r. Au. 2f.) leaves pinnate, downy beneath: the terminal leafet larger, 3-lobed; the lateral ones undivided: flowers in a proliferous corymb. Stem herbaceous.

Spiræa, GILLENIA.

Spiranthes, NEOTTIA.

13—1. STA'CHYS. 42. 42.

hyssopifolia, Mx. (Ju.) slender, erect, somewhat glabrous: leaves sessile, linear and lance-linear, rarely toothed: whorls about 4-flowered. 12—15 i. *S.*

as'pera, Mx. (hedge nettle, clown-heal. O. w-p. Ju. 2f.) stem erect, with branches opposite, hispid backwards: leaves sub-petioled, lance-ovate, truncate-serrate, glabrous with ciliate margins and under veins: whorls 4—12-flowered, but mostly 6: calyx with spreading spines. Var. *tenuifolia*, leaves very thin, slender lanceolate. 1—2 f. This is an exact description of all my specimens, collected in various situations. Perhaps it should constitute a new species.

sylvatica, W. (W. p. Au. 2f.) leaves ovate, sub-cordate, acuminate; whorls 6-flowered: stem prickly backwards. 1—2 f. *S.* N. K.

velutina, Sz. (W. b.) stem simple, 4-angled, villose, or sub-hispid: leaves lance-ovate, crenate-serrate, close-sessile, clasping, opposite and pointing 4 ways: nerves silky tomentose on both sides: whorls about 6-flowered: corol sub-pilose. 1 f.

pilosa, N. (r. 2f.) hirsutely pilose: leaves sub-sessile, oblong-ovate, acute, serrate: calyx very pilose; teeth long: whorls somewhat 6-flowered. R.

Exotic.

latifolia, W. (p. Ju. 2f.) whorls many-flowered, spiked: upper lip bifid with acute divisions: leaves broad, cordate, rugose, hairy.

Southern.

hispida, Ph. (y-p. Ju. 2f.) stem and leaves hispid: leaves petioled, ovate,

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Stachys. Gr. *stachûs*, spike, the flowers of all the species grow in spikes.

oblong, acute, obtusely serrate: whorls about 4-flowered: calyx glabrous. 2 f.

tenuifolia, ( ) stem erect, angled, smoothish: leaves petioled, lance-oval, serrate, acuminate: whorls 6-flowered: calyx very pubescent.

intermedia, A. (W. 2f.) whorls many-flowered: calyx sub-pungent: leaves oblong, sub-cordate, crenate: stem somewhat woolly.

Stachys, HYSSOPUS.

13—2. STAN'LEYA. 39. 63.

Southern.

pinnatifida, N. (W. y. 2f.) glaucous, smooth: leaves somewhat succulent, undulated, interruptedly pinnatifid: divisions sub-lanceolate, remotely toothed: racemes terminal, many-flowered: peduncles long. Mr. Nuttall thinks the Cleome pinnata of Ph. and this plant are the same. 3 f.

integrifolia, J. (W. y.) stem simple, angular: leaves entire, ovate, oblong, tapering to both ends: raceme terminal: silique of the length of the pedicel.

5—3. STAPHYLE'A. 23. 95.

trifolia, (bladder nut. W. y-w. M. ♄.) leaves in threes: racemes pendant: petals ciliate below. When in flower, if the germ be cut transversely and examined, it will appear 2 or 3-celled, and will contain the rudiments of 15 to 20 seeds. But when the fruit is ripe, it consists of 2 or 3 inflated, adnate, sub-membranous capsules, each containing 1 to 3 hard small nuts. 6—12 f. *S.* B. P. C. T. M. F. N.

17—2. STARK'EA. 49. 55.

Southern.

spinulosus, Ph. (1) (W. y. Au. 2f.) caulescent: leaves bipinnatifid, gash-toothed: divisions linear, rigidly mucronate: flowers lateral and terminal, crowded: rays 2-toothed: chaff setaceous. 1—2 f.

5—5. STAT'ICE. 48. 33.

limo'nium, L. (2) marsh rosemary, sea lavender. L. b. Au. 2f.) scape terete: panicle much branched: leaves lance-obovate, obtuse, mucronate, glabrous. The root is a valuable astringent. 12—18 i. *S.* B. C. F.

armeria, (thrift. L. r. 2f.) scape simple, terete, capitate: leaves linear, flat. 1 f. *S.*

Stanleya. In honor of Lord Stanley, a distinguished patron of science.

Staphylea. Gr. *staphula*, a bunch, in which form its fructification is disposed.

Starkea. In honor of the Rev. Mr. Starke, a Cryptogamist of some note.

Statice. Gr. *statiō*, to arrest, because it stops diarrhœa, according to Pliny.

(1) Amellus, Ph. (2) caroliniana, Ph.

10—3. STELLA'RIA. 22. 82.

media, S. (1) (chick weed. O. w. M. 2[.) leaves ovate and heart-ovate, glabrous: stem mostly procumbent, having alternate lines of hairs on opposite sides. Number of stamens variable. 9—15 i.

pu'bera, Mx. (W. w. M. 2[.) pubescent: stem decumbent; leaves ovate-oblong, sessile, acute, sub-ciliate, somewhat undulate: pedicels dichotomous, recurved; petals longer than the calyx. 6—10 i. P. C. M. K.

borealis, Bw. (w. Ju.) leaves lance-oval; peduncles axillary, elongated, 1-flowered: petals and calyx about equal. R. White Mts.

biflora, (w. J. 2[.) cespitose: leaves subulate, crowded: branches 2-parted: petals emarginate: calyx striate. Labrador. Is it an Arenaria? Ph.

palustris, Retz. (2) (stichwort, meadow starwort. W. w. J.) leaves lance-linear, entire, glaucous: flowers panicled: petals 2-parted, larger than the 3-nerved calyx. W. O. T.

uliginosa, Sr. (3) (bog starwort. W. w. J.) stem diffuse, procumbent, much-branched: leaves lanceolate, ciliate, and narrow at the base: peduncles somewhat in pairs, single or many-flowered: petals shorter than the calyx. P. R. W.

humifusa, Sw. (☉.) leaves ovate, sub-secund, sessile: stem procumbent, 4-cornered: peduncles solitary, short.

longipes, Goldie. (W.) sub-flaccid, very glabrous, glaucous: leaves linear-subulate, spreading: peduncles terminal, fork-branched: bracts membranaceous; pedicels much elongated; petals broad-obovate, deeply bifid, a little longer than the obtuse obscurely 3-nerved calyx. Woods. Lake Ontario. N. W. Lakes.

laeta, Hk. (W.) stiffly erect, very glaucous: leaves erect, lanceolate, broader at the base, acute, crenate, smooth: peduncles sometimes in pairs, 1-flowered, sometimes in few-flowered terminal panicles: petals two-parted, a little longer than the obscurely 3-nerved calyx. N. W. Lakes. R.

Southern.

prostrata, Bald. (4) (Ap. ☉.) leaves ovate, acute, smooth: petioles very long: stem prostrate, terete, hollow, dichotomous, sub-pubescent: peduncles solitary, long: flowers heptandrous; calyx erect. Flowers small. 1—4 f.

jamesi'a'na, T. (W.) viscid-pubescent: leaves lanceolate, sub-falcate, closely sessile, acute: stem somewhat branched, flaccid: panicles lax, divaricate: petals 2-lobed, about twice the length of the oblong, acute divisions of the calyx.

Stellaria, MICROPETALON.

17—1. STE'VIA. 49. 55.

Southern.

callosa, N. (W. r. S. ☉.) leaves linear, crowded, somewhat succulent,

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Stellaria. Lat. *stella*, star, from the figure of its flower.

Stevia. In honor of James Steve, or Esteve, an eminent Spanish botanist.

(1) Alsine media, L. (2) glauca, S. Alsita, Hk. (3) alsine, Hn. (4) elongata, N.?

callous at the apex; upper ones alternate: flowers divaricate, sub-corymbed: egret about 8-leaved, erose, short.

Stewartia, STUARTIA.

19—15. STILLIN'GIA. 38. 96.

Southern.

salvatica, (y. J. 2f.) herbaceous: leaves sessile, lance-oblong, tapering at the base, serrulate: staminate florets scarcely longer than the bracteal scale. 2—3 f.

sebifera, (1) (Ju. ♄.) leaves petioled, rhomboid, acuminate, entire, with a gland below the base on the petiole; staminate florets pedicelled. Introduced. 20—40 f.

ligus'trina, Mx. (J.) fruticose: leaves lanceolate, tapering to each end, very entire, petioled; staminate florets short-pedicelled. 6—12 f.

3—2. STI'PA. 4. 10.

avenacea. (2) (feather grass. J. 2f.) leaves striate, glabrous: panicle spreading, sub-unilateral: branches whorled with branchlets: calyx acute, membranaceous, equalling the glabrous seed; awn naked, twisting. Var. *bicolor*, (3) seed obovate, bearded at the base. P. Y. B. O. Florida.

juncea, Ph. (W. Au. 2f.) leaves convolute-filiform: panicle lax: calyx somewhat awned, longer than the seed: awn long, scarcely pubescent. D.

canadensis, Lk. (4) ( ) leaves setaceous: panicle small: calyx glabrous, obtuse-ovate, equalling the pubescent seed: awn thick, short. N.

Southern.

expansa, Lk. ( ) leaves striate, glabrous, somewhat glaucous: spikes alternate, panicled, spreading: flowers sessile, remote: calyx longer than the corol: awn short, naked.

stricta, Lk. ( ) panicle long, narrow: peduncles jointed, very straight: awns naked, somewhat flexuous. Has the aspect of an Andropogon. Lk.

parviflora, Dc. (W. 2f.) leaves radical, sub-rigid, filiform: panicle appressed and diffuse, many-flowered: awns becoming capillary towards the extremity. 1—2 f.

Stipa, TRICHOCHLOA, ERIOCOMA.

3—1. STI'PULICI'DA. 22. 30.

Southern.

setacea, Mx. (5) (w. M. ☉) stem erect, smooth, 2—3-chotomous:

Stillingia. In honor of Mr. Benjamin Stillingfleet, a man of some distinction, and a collector of plants.

Stipa. Gr. *stupē*, a feathery substance; a beautifully feathered beard is peculiar to S. *pennata*.

Stipulicida. Lat. *stipula*, the stipule, and *caedo*, to cut, the stipule being divided into many segments.

(1) Croton, L. (2) virginica, P. (3) barbata, Mx. (4) juncea, Mx. (5) Polycarpon stipulifidum, Ph.

lower leaves small, opposite, spatulate; branch-leaves none: stipules (2 at each fork,) fimbriate. 6—10 i. C.

17—1. STOKE'SIA. 49. 55.

Southern.

cyanea, Hr. (b. 2[.) stem leafy: leaves lanceolate: peduncles axillary, 1-flowered.

14—2. STREPTAN'THUS. 39. 63.

sagittatus, N. (r. ☺.) leaves sagittate, acute, clasping, very entire: petals oblong-oval, immaculate. R.

ovalifolius, Hk. (Arkansas cabbage.) I have received no description of this species other than what is implied by the name—leaves oval. Grows in Arkansas.

Southern.

maculatus, N. (W. p. M. ☺.) glaucous: stem erect, terete; leaves clasping, heart-ovate, acute, entire: raceme terminal, corymbed. 1—2 f.

6—1. STREPTO'PUS. (1) 11. 12.

roseus, Mx. (rose bell wort. r-w. M. 2[.) glabrous, shining: leaves clasping, serrate-ciliate: anthers short, 2-horned. Woods. 12—18 i. *S.* C. B. H. D.

distortus, Mx. (2) (y. M. 2[.) glabrous: leaves clasping: pedicels solitary, twisted-geniculate in the middle. Woods. 2 f. P. N.

lanuginosus, Mx. (W. A. g-y. J. 2[.) whitish-woolly: leaves sessile, sub-cordate at the base, acuminate; pedicels in pairs on a short stipe. Flowers large. Berries red. *S.* Near Rochester. Stevenson. P.

Strophostyles, PHASEOLUS.

21—1. STRUTHIOP'TERIS. 55. 5.

pennsylvanica, W. (3) (ostrich fern. 2[.) barren frond bipinnatifid: divisions entire, obtuse: lower ones elongated, acute. O. D.

15—12. STUART'IA. 37. 70.

Southern.

virginica, Mx. (4) (w. M. ♄.) leaves ovate, acuminate: flowers axillary, generally in pairs: calyx ovate, obtuse: petals entire: styles united. 6—12 f. Florida.

Stokesia. In honor of John Stokes, eminent in botany, and organic relics.

Streptanthus. Gr. *streptos*, twisted, and *anthos*, flower.

Streptopus. Gr. *streptos*, twisted, and *pous*, foot, because of a peculiar twist of each flower stalk.

Struthiopteris. Gr. *strouthos*, an ostrich, and *pterux*, a feather; from the resemblance of its frond to the ostrich feather.

Stuartia. In honor of John Stuart, Earl of Bute, a distinguished naturalist.

(1) Uvularia, L. (2) Uvularia amplexifolia, W. (3) Onoclea nodulosa, Sh. (4) Malachodendron, L.

Stuartia, MALACHODENDRON.

Stylandra, CONVALLARIA.

Stylophorum, MECONOPSIS.

16—10. STYLOSAN'THES. 39. 93.

elatior, (1) (pencil flower. W. y. Au. 2[.) stem pubescent on one side: leaves lanceolate, glabrous: bracts lanceolate, ciliate; heads 2 or 3-flowered. Var. *procumbens*, stem procumbent. 9—15 i. *S.* P. M.

11—12. STY'LYPUS. Raf. 35. 92.

[Generic description omitted in its proper place.]
Calyx inferior, 5-cleft; divisions equal: petals 5, oval distant: stamens permanent, on a glandular ring: seeds compressed, ovate, glabrous with scattered pubescence, sub-margined: receptacle columnar, villous, becoming elongated; awns geniculate.

verna, (y. J. 2[.) sparingly pubescent; stem procumbent at the base, branching above: radical leaves interruptedly pinnate; cauline ones pinnate and pinnatifid; leafets gash-toothed: stipules large, roundish, gash-toothed. Petals longer than the calyx: awns naked: flowers small. M. K.

15—12. STY'RAX. 37. 71.

Southern.

grandifolium, (2) (w. Ap. ♄.) leaves broad-obovate, acuminate, tomentose beneath: racemes simple, axillary, leafy near the base. 4—12 i.

pulverulentum, Mx. (w. Ap. ♄.) leaves oval, acute, tomentose beneath; racemes lateral, few-flowered, leafy. 18 i.

lasve, Wr. (3) (w. Ap. ♄.) leaves lanceolate, acuminate at each end, serrate, glabrous: racemes lateral, leafy. Corol tomentose. 4—6 f.

glabrum, (4) (w. Ap. ♄.) leaves lance oval, acute at each end, finely serrulate, membranaceous, glabrous: racemes lateral, leafy. 6—8 f. Florida.

14—1. SUBULA'RIA. 39. 63.

aquatica, W. (awl wort. w. Ju. ☼.) stemless: leaves subulate. Wet. 1—2 i.

Southern.

alpi'na, W. (A. 2[.) stem branching: leaves obovate.

Stylosanthes. Gr. *stulos*, a column, and *anthos*, flower, the corol being supported on a pillar in the calyx.

Stylypus. Gr. *stulos*, column, *upo*, under; on account of its receptacle being columnar.

Styrax. Gr. *sturax*, the ancient name for the gum benzoin, which this genus furnishes.

Subularia. Lat. *subula*, an awl, from its awl shaped leaves.
(1) hispida, Mx. Trifolium biflorum, L.
(2) grandiflorum, Mx. (3) glabrum, Mx. (4) Botan. Mag. No. 921.

4—1. SWER'TIA. 47. 46.

deflexa, S. (1) (W. g-y. Ju. ♂.) corol bell-form, with a deflected horn: leaves ovate: branches short. In swamps. 18—24 i. D. Canada.
pusilla, Ph. (false gentian. A. b. J. ☉.) corol wheel-form, twice as long as the calyx: stem simple, 1-flowered: leaves oblong. 1 i. White Hills.

Southern.

fastigiata, Ph. (W. b. Ju. 2ſ.) corol bell-wheel-form, as long as the calyx: flowers fastigiate-clustered, axillary and terminal: pedicels in pairs: leaves spatulate-obovate, nerved: stem branching.

10—1. SWIETE'NIA. 37. 71.

Southern.

mahagonii, (mahogony. ♄.) leaves somewhat 4-paired; leafets lance-ovate, unequal at the base, acuminate: racemes axillary, panicled.

3—1. SYE'NA. 5. 17.

Southern.

fluviatilis, (J. 2ſ?) leaves crowded, subulate: flowers axillary, solitary, long-peduncled: peduncle recurved after flowering. 2—3 i.

5—1. SYMPHO'RIA. (2) 48. 58.

racemosa, Mx. (3) (peter's wort. W. r. Au. ♄.) raceme terminal: corol bearded within. 2—3 f. S. O. D. Rochester.
glomerata, Ph. (4) (W. g-r. Au. ♄.) racemes axillary, capitate, conglomerate. 3—4 f.

5—1. SYMPHORICARPUS. 48. 58.

racemosa, Mx. (5) ( ) flowers in sub-terminal-lax, interrupted, often leafy racemes: corol densely bearded within: style and stamens included. Canada. R. A.
occidentalis, Rich. ( ) spikes dense, terminal and axillary, nodding: corol and divisions densely bearded within: style and stamens subexsert. R. A.

Swertia. In honor of Emanuel Sweert, gardener to the emperor Rudolphus II.
Swietenia. In honor of the celebrated Austrian, Van Swieten.
Syena. In honor of Arnold Syen, superintendent of the garden at Leyden.
Symphoria. Gr. *sumphoreō*, to cluster together, alluding to the inflorescence.
Symphoricarpus. Gr. *sumphoreo*, to cluster or unite, *karpos*, fruit; on account of the germs being adnate.
(1) corniculata, Ph. not L.
(2) Lonicera. (3) Symphoricarpus, Mx. (4) vulgaris, Mx.
(5) Xylosteum ciliatum, var. album, Ph.

5—1. SYM'PHYTUM. 41. 43.

Exotic.

officinale, (comfrey. y-w. J. 2ℓ.) leaves ovate-sub-lanceolate, decurrent, rugose. Naturalized. 2—4 f.

Symplocarpus, ICTODES.

Symplocos, HOPEA.

13—1. SYNAN'DRA. 42. 42.

Southern.

grandiflora, N. (W. y-w. J. 2ℓ?) stem irregularly sulcate: leaves sub-hirsute above, heart-ovate, acuminate, obtusely dentate; lower ones sub-petioled; upper ones sessile, clasping: flowers solitary, sessile. 1 f. K.

2—1. SYRIN'GA. 48. 34.

Exotic.

vulgaris, (lilac. b-p. w. M. ♄.) leaves cordate: flowers in a thyrse.
persica, (persian lilac. b. M. ♄.) leaves lanceolate, entire or pinnatifid.
chinensis, (chinese lilac. b. M. ♄.) leaves lanceolate: branches stiff, mottled.

T.

17—2. TAGE'TES. 49. 55.

Exotic.

erecta, (african marygold. y. Ju. ☉.) leaves pinnate; leafets lanceolate, ciliate-serrate; peduncles 1-flowered, incrassate, sub-inflated calyx angled.
patula, (french marygold. y. Ju. ☉.) leaves pinnate; leafets lanceolate, ciliate serrate: peduncles 1-flowered, sub-incrassate: calyx smooth: stem spreading.

11—1. TALI'NUM. 54. 86.

teretifolium,* Ph. (taliny. W. p. Ju. 2ℓ.) leaves cylindric, fleshy, subulate: peduncles elongated, naked, cymose. 4—10 i. Darlington says, the seed is not arilled, according to the generic descriptions of W. & N. S. P. D.

Symphytum. Gr. *sümphüton*, of *sun*, and *phuō*, to grow together, having been famous for its healing wounds.
Synandra. Gr. *sun*, together, and *aner*, stamens, in allusion to the adherence of the two long stamens.
Syringa. Gr. *suriax*, a pipe, because pipes were made of its branches.
Tagetes. Said to be named from Tages, a Tuscan divinity, grandson of Jupiter.
Talinum. Gr. *thallo*, to be green, from the verdant habit of the genus.

*This most elegant little annual is remarkably tenacious of life. I received the dry root in a letter from Mr. D. Townsend, collected in Dr.

17—2. TANACE'TUM. 49. 55.

huronensis, N. (W. y. 2f.) leaves pseudo-bipinnate, gash-serrate, subtomentose beneath: pedicels thickened: ray-florets irregular, 4—5-cleft. Flowers large, corymbed. D.

pauciflorum, Rich. ( ) stem simple, longer than the leaves, somewhat 1-flowered: leaves bi-pinnate, villose, sessile: florets all perfect. A.

Exotic.

vulgare, (tansey. W. y. Ju. 2f.) leaves doubly pinnate, gash-serrate. Naturalized. Var. *crispum*, (double tansey,) leaves crisped and dense.

20—15 TAX'US. 51. 100.

canadensis, W. (1) (dwarf yew, shin-wood. O. Ap. ♄.) leaves linear, 2-ranked, margin revolute: receptacles of the staminate flowers globose. Appears like a small spreading hemlock bush. 2—6 f.

baccata, W. (W. ♄.) leaves linear, 2-ranked, flat: receptacles of the staminate flowers globose.

10—2. TELLIMA. 13. 84.

grandiflora, Doug. (W. w. 2f.) leaves cordate, lobed, dentate-serrate: raceme elongated: petals oblong-linear, laciniate-pinnatifid: styles 2. A. R.

parviflora, H. ( ) hirsute-scabrous: leaves ternate; leafets gash-pinnatifid: raceme short, petals unguiculate, trifid: styles 3. 1 f. R. North California.

Tellima, MITELLA.

16—10. TEPHRO'SIA. 32. 93.

virginiana, (goat's rue. O. r. Ju. 2f.) erect, with whitish down: leafets (17—21) lance-oblong, acuminate: raceme terminal, short, sub-sessile: legumes falcate, villose: calyx woolly. 1 f. *S.*

Southern.

chrysophylla, Ph. (2) (M.) prostrate; pubescent: leaves pinnate, in fives, sub-sessile: leafets cuneate, obovate, very obtuse, glabrous above, silky beneath: peduncles opposite the leaves, long, about 3-flowered: legumes nearly straight.

Tanacetum. Corrupted from *Athanasia*, the ancient name for tansey, of *a*, without, and *thanatos*, death, from the durability of its flowers.
Taxus. Lat. *taxus*, the ancient name for the yew tree.
Tephrosia. Gr. *tephros*, ash colored, from the color of the foliage.
(1) baccata minor, Mx. (2) prostrata, N.

Darlington's locality in Pennsylvania, which I set in a box of earth in the spring of 1827, and it produced numerous flowers that season. The next summer a sufficient number of plants were produced by self-sown seeds, to supply numerous specimens for students.

hispidula, Mx. (1) (r. M. 2ℓ.) stem erect, slender, pubescent, dichotomous: leaves pinnate; leafets (11—15) oval, sub-retuse: mucronate, hairy beneath: racemes as long as the leaves, few-flowered: legumes mucronate, slightly hispid. 2 f.

paucifolia, N. (2) (r. M. 2ℓ.) stem decumbent, very villous: leaves distant, pinnate: leafets oval, wedge-form at the base, villous beneath: peduncles much longer than the leaves, few-flowered.

onobrychoides, N. (r.) erect; ferruginous-pilose: leaves sub-sessile; leafets numerous, (16—24) cuneate-oblong, obtuse, mucronulate: racemes very long, terminal, many flowered: teeth of the calyx unequal, short. Arkansas.

elegans, N. (r-p. 2ℓ.) decumbent; sparingly pubescent: leaves sub-sessile; leafets (15—17) oblong-elliptic, acutish: peduncles filiform, few-flowered, longer than the leaves: divisions of the calyx acuminate. Alabama.

holosericea, N. (2ℓ.) erect; silky-pilose: leaves sub-sessile; leafets numerous, (21—25) lance-oblong, acutish: racemes short, sessile, large-flowered: divisions of the calyx all very acuminate. Arkansas.

17—2. TET'RAGONOTHE'CA. 49. 55.

Southern.

helianthoides, W. (y. J. 2ℓ.) scabrous: leaves opposite, sessile, lance-spatulate, toothed, pilose, glandular-punctate: calyx 4-angled. 2—3 f. Florida.

13—1. TEU'CRIUM. 42. 42.

canadense, (wood-sage, germander. O. r. Ju. 2ℓ.) pubescent: leaves lanceolate, serrate, petioled: stem erect: spikes whorled, crowded: bracts longer than the calyx. Var. *virginicum*, upper leaves sub-sessile: bracts about the length of the calyx. 1—3 f. *S.*

laciniatum, T. & J. (W.) somewhat fruticose: leaves pinnately 5-parted; upper ones 3-parted; divisions linear: flowers axillary, solitary, pedicelled: pedicels much shorter than the leaves.

1—1. THA'LIA. 8. 21.

Southern.

dealbarta, Roscoe. (p. Au. 2ℓ.) panicle white-pulverulent: spathe 2-flowered: leaves ovate, revolute at the summit.

12—13. THALIC'TRUM. 26. 61.

dioicum, (3) (meadow rue. O. w-r. M. 2ℓ.) flowers dioecious: filaments filiform: leaves decompound, about 3-ternate; leafets roundish-cor-

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Tetragonotheca. Gr. *tetragon*, quadrangular, and *theka*, case, in allusion to the four angles of the grains.

Teucrium. Said to be named after Teucer, the founder of Troy.

Thalia. In honor of John Thalius, a German Botanist.

Thalictrum. Gr. *thallo*, to be green, alluding to its verdant habit.

(1) gracile, N. (2) villosa, Mx. spicata, Wr.

(3) laevigatum, Mx.

date obtusely lobed, glabrous: peduncles axillary, shorter than the leaves. 1—2 f. *S.*

revolutum, Dc. (1) (large meadow rue. O. w. Au. 2ſ.) flowers dioecious or polygamous: filaments filiform: leafets generally 3-lobed; margin revolute, finely pubescent beneath. *S.*

carolinianum, Rose. (2) (w. J. 2ſ.) flowers dioecious: filaments filiform: leafets ovate, 3—5-toothed, glabrous, glaucous beneath: peduncles axillary, longer than the leaves. *S.*

rugosum, (W. w. J. 2ſ.) stem erect, terete, striate: panicle erect, much divided: flowers crowded: leafets ovate, sub-cordate, coarsely crenate, glaucous beneath, shining above. 2—5 f. *S.* P. O. F.

cornuti, (W. g-y. Ju. 2ſ.) leaves more than decompound; leafets ovate, 3-cleft: panicle terminal. 2—3 f.

corynellum, Dc. (W. w. Ju. 2ſ.) flowers polygamous; filaments clavate: fruit sessile, striate: leafets obtusely 3-lobed, pale underneath. 3—4 f. T. B. C. D.

purpurascens, (W. J. 2ſ.) stem twice as high as the leaves: leafets roundish, 3-cleft, gashed: panicle nearly naked: flowers nodding: stamens colored: stems purple. A variety of T. *dioicum?* Peekskill.

Southern.

ranunculinum, W. (W.) leaves simple, 5-lobed, serrate, flowers corymbed.

clavatum, (2ſ.) monoecious: filaments club-form: pericarp compressed, scarcely beaked, with a very short style: leaves glabrous, without stipes.

5—2 THAS'PIUM. 45. 60.

actaeifolium, Dc. (Ju. 2ſ.) leaves gash-biternate; segments oval, equally dentate: umbels sub-verticillate; lateral ones sterile. 3 f. Canada. Banks of St. Lawrence river. Virginia.

barbinode, Dc. (W. y. 2ſ.) lower leaves somewhat gash-3-ternate; upper ones gash-biternate, segments cuneate-ovate, acute, unequally gash-serrate, entire at the base. 3 f. P. Banks of Schuylkill.

atropurpureum, Dc. (p. J. 2ſ.) radical leaves petioled, cordate undivided: cauline ones gash-pinnate; segments 3—7, short-petioled, ovate-oblong, all cartilaginous-dentate. 2—3 f. *S.* C. H. M. P.

Thaspium, CNIDIUM, SIUM, THAPSIA.

12—1. THE'A 54. 70.

Exotic.

bohea, (bohea tea. M. ♄.) flowers 6-petalled: leaves oblong-oval, rugose. From China and Japan.

viridis, (green tea. ♄.) flowers 9-petalled: leaves very long-oval. J. C. Lettson says this is only a variety of the *bohea*.

Thaspium. From the isle of Thaspia which gave name to the Thapsia of the ancients, in allusion to its affinity with that genus.

Thea. Gr. *thea*, originating in the Chinese Tcha or Tsja, their name for tea.

(1) pubescens, Ph. polygamum, M. (2) rugosum, Ph.

10—1. THER'MIA. 32. 93.

Southern.

rhombifolia, N. (1) (W. y. 2ℓ.) leafets rhomb-ovate somewhat wedge form, silky-pubescent beneath, obtusish: stipule leaf-like, round-ovate, oblique, shorter than the petiole: raceme interrupted.

Thermopsis, THERMIA.

5—1. THE'SIUM. 31. 25.

umbellatum, (2) (false toad-flax. O. w-g. J. 2ℓ.) erect: leaves oblong: umbels axillary, (sometimes at a distance above the axil:) 3—5-flowered, flowers bracted: peduncles longer than the leaves. 9—15 i. S.

14—1. THLAS'PI. 39. 63.

arvense, (penny-cress. W. J. ☼.) silicles sub-orbicular, compressed, smooth: leaves oblong, toothed, glabrous. P. Y. D.

alliaceum, (W. ☼.) silicle sub-ovate, ventricose: leaves oblong, obtuse, toothed, glabrous. Introduced.

tuberosum, (r. M.) silicle sub orbicular, short, compressed: leaves rhomb-ovate, obsoletely toothed, smooth, sessile; radical ones long-petioled: stem pubescent, very short and simple: root tuberous and fibrous. 4—5 i. P.

sampestre, (yellow-seed, false-flax, mithridate mustard. O. J. ☼.) silicle obcordate, inflated, glandular-punctate; cauline leaves sagittate, toothed. Very troublesome in flax-fields, and was probably introduced with flax-seed.

alpestre, Dc. ( ) leaves entire or obscurely toothed; radical ones ovate, petioled; cauline ones oblong, clasping; petals about equalling the calyx: silicle obcordate, 8—12 seeds: style filiform. Canada.

montanum, Dc.( ) leaves somewhat fleshy, entire; radical ones obovate, petioled; cauline ones oblong, sagittate-clasping: petals larger than the calyx: silicles obcordate, 4-seeded: style filiform. A. Canada.

cochleariforme, Dc. ( ) leaves somewhat fleshy; radical ones petioled, ovate, sub-dentate; cauline ones cordate-clasping; petals larger than the calyx: silicles oblong, sub-emarginate, 8-seeded: style short, filiform. R.

Thlaspi, LEPIDIUM.

19—15. THU'JA. 51. 100.

occidentalis, (arbor vitæ, false white cedar. M. ♄.) branchlets 2-edged:

Thermia. Gr. *thermos*, a lupine, to which its flowers bear resemblance.

Thesium. Gr. *theseion*, because it formed part of the garland presented by Theseus to Ariadne.

Thlaspi. Gr. *thlaō*, to break or press, because its seeds appear as if bruised or pressed.

Thuja. Gr. *thuion*, a kind of cedar used for making images in Greece, or *thya*, from *thyō*, to sacrifice, because its wood was used as a perfume in sacrifices.

(1) Cytisus, Ph. (2) Comandra, N. Hamiltonia, S.

leaves imbricated 4-ways, rhomb-ovate, close-pressed, naked, tubercled: strobiles obovate; inner scales truncate, gibbous below the apex, Vast quantities along the Erie canal from Rome to Montezuma. V. T. Peekskill.

gigantea, N. ( ) strobiles lax; scales oboval retuse: leaves imbricate, 4-ways, ovate, obtusish, closely incumbent, sub-equal. 200 feet high and 12 feet diameter. R.

13—1. THYMUS. 42. 42.

Exotic.

serpyllus, (mother of thyme. b-p. J. ♄.) flowers in heads: stem creeping: leaves flat, obtuse, ciliate at the base. Naturalized.

vulgaris, (thyme. b-p. J. ♃. ♄.) erect; procumbent at the base: leaves ovate and linear, revolute, flowers in a whorled spike.

lanuginosus, (lemon thyme. ♃. ♄.) flowers in heads: stem creeping, hirsute: leaves obtuse, villose.

Thyrsanthus, WISTARIA.

Tiedmannia, OENANTHE.

14—1. THY'SANOCAR'PUS. 39. 63.

curvipes, Hk. (W.) flowers racemed, small: silicle pendulous: stem solitary, erect: leaves mostly radical, pinnatifid. West of Rocky Mt.

10—2. TIAREL'LA. 13. 84.

cordifolia, (mitre-wort, gem-fruit. w. M. ♃.) leaves cordate, acute-lobed, toothed: teeth mucronate: scape racemed. Resembles the Mitella diphylla. 10 i. C. T. O. N. V.

menziesii, Ph. (W. ♃.) leaves ovate, cordate, acute, short-lobed, toothed; cauline ones alternate, distant: raceme filiform, somewhat spiked: calyx tubular. 1 f.

trifoliata, W. (W. ♃.) leaves ternate; leafets sub-rhomboid, serrate, pilose: racemes terminal: little corymbs of flowers alternate: calyx bell-form.

bracteata, T. & J. (W. ♃.) leaves round-cordate, gash-serrate; serratures mucronate: scape racemed: flowers pentandrous, bracted: petals very narrow: stamens not exsert. This species differs from Tiarella in its pentandrous, bracted flowers, and from Heuchera in its distinct styles and habit. It should perhaps form a distinct genus. Torrey.

unifoliata, Hk. ( ) sub-glabrous; stem one leaved: leaves all petioled, triangular-cordate, obtusely toothed; teeth short-mucronate: panicle lax: flowers nodding: calyx campanulate: petals abortive (?) 1 f. R.

laciniata, Hk. ( ) rough, hirsute: stem sub-trifoliate: leaves trifo-

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Thymus. Gr. *thumos*, courage, in allusion to its cordial qualities.

Thysanocarpus. Gr. *thusanos*, fringe, and *karpos*, fruit; the pods being edged with fringes.

Tiarella. A diminutive of *tiaras*, an ancient ornament for the head, in allusion to the shape of the seed vessels.

liate; middle leafet trifid; lateral ones bifid: all broad-lanceolate, lacinate-pinnatifid: panicle lax:flowers nodding: calyx short-campanulate: petals 0? 9—12 i. N. W. Coast.

Southern.

biternata, Vent. (A. y-w. J. 2[.) leaves biternate; leafets heart-ovate, oblique, gash-lobed, toothed: stem leafy: panicle terminal, divaricate, with the flowers somewhat spiked. There is some obscurity about this plant; it cannot belong to this genus. Elliott. Resembles Spiraea aruncus. Ph.

12—1. TIL'IA. 37. 79.

glabra, V. (1) (bass-wood, lime-tree. O. y-w. Ju. ♄.) leaves round-cordate, abruptly acuminate, sharply serrate, sub-coriaceous, glabrous: petals truncate at the apex, crenate: style about equalling the petals: nut ovate. Large tree; wood soft and white. Leaves often truncate at the base. *S.*

laxiflora, Mx. (M. ♄.) leaves cordate, gradually acuminate, sparingly toothed, membranaceous, glabrous: panicle lax-flowered; petals emarginate, shorter than the style: nut globose. *S.*

pubescens, V. (2) (crop-ear bass-wood. y-w. Ju. ♄.) leaves truncate at the base, (one lobe cropped,) oblique, acuminate, tooth-serrate, pubescent beneath; panicle dense-flowered: petals emarginate, about equal to the style: nut globose, smooth. Var. *leptophylla*, leaves lax, serrate, very thin, somewhat papyraceous. *S.* P. D. C. O. N.

Southern.

heterophylla, Vent. (W. J. ♄.) leaves ovate, oblique at the base or equally truncate and cordate, sharply serrate, white tomentose beneath: nut globose, somewhat ribbed.

4—4. TILLÆ'A. 13. 86.

ascendens, Ea. (pigmy-weed. w.) stem ascending, rooting at the lower joints: leaves connate, subulate, fleshy: flowers axillary, solitary, sessile. Very minute. A new species: discovered on the Housatonic by Prof. Ives, in the summer of 1816. C. Peekskill.

6—1. TILLAND'SIA. 10. 15.

Southern.

utriculata, (wild pine. w.) leaves somewhat glaucous and pruinose, concave, broad, subulate, setaceous at the apex, acuminate, recurved and very dilated at the base: panicle branching: flowers sessile: bracts somewhat 2-ranked, shorter than the calyx: petals twice as long as the calyx, erect, equal below, distinct at the apex, often gaping on the side: stamens longer than the corol. Leaves pale green, retaining water in their dilated bases. 3 f.

Tilia. Lat. *tilia*, the linden, perhaps of Gr. *ptelea*, the elm tree.
Tillæa. In honor of Tilli, an Italian botanist.
Tillandsia. In honor of Tillands, a Swedish botanist of Abo.
(1) americana, W. canadensis, Mx. (2) americana, Wr.

juncea, Le Conte. (b.) stem leafy: leaves longer than the stem, gradually shorter towards the top, somewhat pruinose, channelled, subulate-setaceous, rigid, recurved at the apex dilated at the base: spikes compound, many-flowered, distichous; bracts imbricate, longer than the calyx: petals equitant, thereby forming a tube, dilated in the middle, thrice as long as the bracts, margin and apex recurved: stamens longer than the corol: stigma round-capitate, hispid. Leaves pale-green: stem reddish: bracts red: stamens blue; anthers yellow. 1 f.

prinifolia, LeConte. (b.) stem leafy: leaves equalling the stem, gradually shorter towards the top, at length scale-like, sub-pubescent, not pruinose, subulate-setaceous, semi-terete, erect, concave at the base: spikes simple few-flowered: bracts short, imbricate: petals equitant, thereby forming a tube, longer than the bracts: dilated in the middle, recurved at the apex and margin: stamens longer than the corol. Leaves pale-green: stem and bracts red: stamens blue: anthers yellow. 5 i.

bartra'mi, E. (b.) stem leafy; leaves longer than the stem gradually shorter towards the top, hoary-pubescent, subulate setaceous, semi-terete, erect, concave and dilated at the base: spike nearly simple, 6—8-flowered, 2-ranked, bracts imbricate: petals equitant, thereby forming a tube, dilated in the middle longer than the bracts, recurved at the apex and margin. Leaves greenish: stem and bracts red: stamens blue: anthers yellow, 10 i.

caespitosa, Le Conte. (b.) stem scaly by the diminution of the leaves: leaves longer than the stem, hoary-pubescent, subulate-setaceous, semi-terete, erect, somewhat concave at the base: spikes 3—4-flowered: bracts imbricate: petals equitant, thereby forming a tube, dilated in the middle, longer than the bracts, recurved at the apex and margin. Leaves reddish grey: stem and bracts red: stamens blue; anthers yellow. 4 i.

recurvata, ( ) leaves shorter than the stem, terete, curved, subulate-setaceous, pruinose, whitish-pubescent, with narrow grooves, 2-ranked: stem naked, above, 1—2-flowered: flowers sessile: corol longer than the calyx. 6 i.

usneoides, (g.) greyish, pruinose, whitish pubescent: stem diffuse, filiform, pendulous, branching, dichotomous, flexuous, or even spirally twisted: leaves subulate-filiform, semi-terete, twisted: flowers terminal, solitary, sessile: calyx glabrous, rusty, 3-parted: divisions subulate, very acute, erect: petals 3, broad-linear, rounded at the apex, equitant below, thereby forming a tube equal to the calyx; lamina spreading, flat: stamens shorter than the tube.

18—1. TIPULARIA. 7. 21.

discolor, N. (1) (w. Au.) leaf solitary, plaited and longitudinally nerved: flowers racemed, nodding, bractless. Resembles the Coralorhiza. Y.

Tipularia. So called from a fancied resemblance in the flower to insects of the genus *tipula*, or crane fly.

(1) Limodorum unifolium, M. Orchis discolor, Ph.

6—3. Tofield'ia. 10. 13.

pubens, Mx. (1) (g-w. Au. 2[.) scape scabrous: spike oblong, interrupted: capsules sub-globose, scarcely longer than the calyx. 12—18 i. S. D.

glutinosa, Mx. (W. 2[.) scape and pedicels glutinous-scabrous: spike with a few alternate fascicles: capsule egg-form, twice as long as the calyx. Canada.

pusilla, Mx. (scotch asphodel. g-w. J. 2[.) glabrous: leaves short: scape filiform: spike few-flowered, globular: little calyxes adnate to the rachis: capsule globose. Mountain swamps. Canada.

Southern.

glabra, N. (g-w.) scape terete, smooth: leaves linear, ensiform: spike short, dense, oblong: bracts acute, very small: peduncles solitary, angular, as long as the flowers: styles 0: capsules distinct, membranaceous, equalling the corol. 8—10 i.

glaberrima, Macbride. (w. Oc. 2[.) very glabrous flowers racemed: buds approximate, nearly whorled, 1-flowered. 2—3 f.

Tolmia, Pyrola

11—1. Tor'reya. Ea. (2) 17. 88.

Southern.

ornata, N. (W. y-w. A. 2[?) leaves lanceolate, interruptedly pinnatifid: segments sub-acute: base of the capsule foliose, 5 to 7-valved: seeds almost without margins. 2 to 4 feet high. Flowers very large, solitary and terminal, sessile, odorous. Found on the banks of the Missouri.

nuda, N. (W. y-w. 2[.) leaves sub-lanceolate, interruptedly pinnatifid, segments obtuse: capsule naked, 3-valved: seed margined: outer stamens petaloid, often sterile. Flowers smaller than the preceding species. Near the Great Bend on the Missouri.

17—2. Townsen'dia. 49. 55.

sericea, Hk. ( ) florets of the ray involute, narrow, scarcely ex-

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Tofieldia. In honor of Mr. Tofield, an English botanist.

Torreya. In honor of Prof. John Torrey of New-York.

Townsendia. In honor of David Townsend Esq. of West Chester, Pa.

(1) pubescens, Ph. Narthecium, Mx.

(2) Bartonia, Nuttall. Another plant has long since received the name Bartonia. Several plants of doubtful character have been named in honor of Dr. Torrey. But, I believe, all American botanists will consent to give his name to *a definite genus*. I received Mr. Nuttall's assent to this name, at his garden in Cambridge, Mass.

As I am the oldest teacher of *popular botany* in North America, and as I taught our modern Linneus the very name of calyx, corol and stamen, at his early age of fourteen, Mr. Nuttall was willing to permit me to give this name to a plant of his discovery. Dr. Torrey was not consulted; but about twenty of our best American botanists were consulted.

panded: leaves radical, numerous, erect-spreading, sub-spatulate, entire, ciliate: flowers solitary: calyx ovate, with silky leaflets. A. R.

6—1. TRADESCAN'TIA. 6. 13.

virginica, (spider-wort, b. p. M. 2[.) erect, branching: leaves lanceolate, elongated, glabrous: flowers sessile: at length the peduncles become elongated: umbel compact, pubescent. Cultivated. 1—2 f. S. P. M. Florida.

rosea, Mx. (r. M. 2[.) erect, simple: leaves lance-linear: peduncles elongated: calyx smooth. 8—12 i. S.

19—3. TRA'GIA. 38. 96.

ramosa, T. & J. (W.) stem herbaceous, pilose. very branching: leaves petioled, lance-ovate, sharply serrate, hirsute beneath, sub-cordate at the base: racemes axillary, filiform, few-flowered. 8 i.

Southern.

urens, (Ju. 2[.) erect: leaves lanceolate, sessile, obtuse, sub-dentate at the apex: stem and branches pubescent. Var. *subovalis*, leaves oblong-oval, sometimes wedge-form. Var. *lanceolata*, leaves lanceolate, sub-dentate and entire. Var. *linearis*, (1) leaves linear, nearly, all entire. 12—18 i.

urticifolia, Mx. (Ju. ☉.) leaves cordate, ovate, serrate: stem erect, very hirsute. 12—18 i.

macrocarpa, W. (W. Ju. ☉.) climbing, hispid: leaves deeply cordate, ovate, acutely toothed. K.

17.—1. TRAGOPO'GON. 49. 53.

Exotic.

porrifolius, (vegetable oyster, goat-beard, salsafy. p. Ju. ♂.) calyx longer than the rays of the corol; the corrollets very narrow, truncate: peduncles incrassate. C.

5—2. TRE'POCAR'PUS. 45. 60.

Southern.

aethusae, N. (w.) umbels 5-rayed: fruit four times as long as broad: leaves many-cleft, with linear lobes. Arkansas.

brachycarpus, (W.) umbels 2 and 3-rayed: fruit three times as long as broad. Perhaps a variety of the last. Louisiana.

Tradescantia, In honor of two Tradescants, father and son, French botanists.

Tragia. In honor of Hieronymus Tragus, a famous old German herbalist.

Tragopogon: Gr. *trogos*, a goat, and *pogon*, beard, so called from its downy seeds while in the capsule.

Trepocarpus. Gr. *trepo*, to turn, and *karpos*, fruit; from that appearance.

(1) linearifolia, E.?

10—1. TRIB'ULUS. 14. 81.

Southern.

maximus, (y. Ju.) leaves pinnate; leafets about 4-pairs, outer ones largest: pericarps 10-seeded, not spiny. 1—2 f.

trijugatus, N. (y. ☉.) leafets in 3 pairs; terminal ones largest, pubescent beneath: capsules 5, 1-seeded, muricate, spineless.

3—2. TRI'CHOCHLO'A. 4. 10.

capillaris, Lk. (1) (W. S. 2ſ.) leaves convolute-filiform, smooth: panicle diffuse, capillary, very slender: pedicels longer than the awns: awns 3—4 times as long as the flower. 2 f. *S. N.*

3—2. TRICHO'DIUM. 4. 10.

laxiflorum, Mx. (W. M. 2ſ.) culm erect: leaves setaceous and with the sheaths somewhat scabrous: panicle diffuse, capillary, with trichotomous branches: calyx unequal. 18 i. *S.* B. C. T. N.

scabrum, M. (2) (Ju. 2ſ.) culm geniculate at the base, assurgent, branched: leaves lance-linear, flat, striate, scabrous: sheaths generally smooth; panicle whorled and divaricate, calyx unequal: corol ovate, acute, 3-nerved. 12—18 i. *S.* T. Y. P. W. N.

elatum, Ph. (Au. 2ſ.) culm erect, firm: leaves narrow linear, flat, scabrous; sheaths smooth: panicle whorled, a little spreading: glumes nearly equal. 3 f. *S.*

montanum, T. (A. Ju. 2ſ.) culm cespitose, erect: leaves involute-filiform and with the sheaths scabrous: panicle capillary, lax, a little spreading. 9—12 i.

perenneum, Wr. (3) (S. 2ſ.) culm decumbent: panicle somewhat diffuse; branches whorled and trichotomous: flowers racemed. 1—2 f. *S.*

Trichophorum, SCIRPUS,

17—2. TRI'CHOPHYL'LUM. N. (4) 49. 55.

lanatum, Ph. (W. y. Ju. 2ſ.) woolly on all parts: leaves linear, pinnatifid above: peduncles elongated, 1-flowered: rays 2-toothed: seed glabrous, 5-angled.

integrifolium, Hk. (·) lower leaves obovate-spatulate, upper ones linear-spatulate, entire and very entire or very rarely sub-trifid at the apex, both sides white-woolly. R.

multiflorum, N. (y. Ju. ☉?) many-stemmed; canescent-tomentose: leaves opposite; lower ones entire; upper ones trifid or sub-bifid at the apex; branching ones entire, linear: calyx 8-leaved; divisions ovate-oblong, obtuse. 9 i. R.

Tribulus. Gr. *tribolos*, name of the thistle, from Gr. *treis bolai*, tree.

Trichochloa Gr. *thrix (trichos)* hair, and *chloa*, green herbage.

Trichodium. Gr. *thrix (trichos)* hair, on account of its capillary inflorescence.

Trichophyllum. Gr. *thrix (trichos)* hair, and *phullon*, a leaf, an apt name.

(1) Stipa, Lk. sericea, Mx. Agrostis sericea, M. (2) Agrostis scabra, W. (3) decumbens, Mx. Cornucopia, Wr. (4) Actinella, Ph.

Southern.

oppositifolium, N. (W. Ju. 2ſ.?) decumbent, branching: short-hoary-pubescent: leaves opposite, palmate-3-cleft, segments ligulate, simple or divided: peduncle filiform, mostly dichotomous, scarcely longer than the leaves. 6—12 i.

13—1. TRICHOSTE'MA. 42. 42.

dichotoma, (blue curls. W. b. Au. ☉.) leaves lance-ovate: branches flower-bearing, 2-forked: stamens very long, blue, curved. Var. *linearis*, somewhat pubescent: leaves linear. 6—12 i. *S.* T. Y. V. C. N. P. B. H. M. F.

Tricuspis, WINDSORIA.

7—1. TRIENTA'LIS. 20. 35.

americana, Ph. (1) chick winter green. O. w. M. 2ſ.) leaves lanceolate, serrulate, acuminate: petals acuminate. 3—6 i.

16—10. TRIFO'LIUM. 32. 93.

reflexum, (W. r. J. 2ſ.) procumbent, pubescent: leaves obovate: stipules oblique, cordate, leaves many-flowered: flowers pedicelled, at length all reflexed: legumes about 3-seeded. Near the great Lakes. 12—18 i. *S.* P. C. Charleston, S. C.

repens, (white clover. O. w. M. 2ſ.) creeping: leafets ovate-oblong, emarginate, serrrulate: flowers in umbelled heads: teeth of the calyx sub-equal: legumes 4-seeded. *S.*

pratense, (red clover. O. r. M. 2ſ.) ascending, smoothish: leafets ovate, sub-entire: stipules awned: spikes dense-ovate: lower tooth of the calyx shorter than the tube of the corol, and longer than the other teeth. 2—3 f. *S.*

pennsylvanicum, (r. J. 2ſ.) ascending: stem very branching, zigzag: leafets oval-ovate, obtuse, entire: stipules awned: spikes ovate-cylindric, dense, solitary: lower tooth of the calyx shorter than the tube of the corol. *S.* P. Canada.

arvense, (rabbit foot, field clover. O. w. Ju. ☉.) erect, branching, villose, leaves linear-oblanceolate: spikes villose, oval-cylindric: teeth of the calyx setaceous, longer than the corol. Grows in dry pastures or barren fields. 6—10 i. *S.*

agrarium, (2) (y. J. ☉.) erect, sub-pubescent: leafets lance-wedge-form, obtuse, middle one sessile: stipules lanceolate, acute: spikes oval, imbricate: banner deflexed, permanent; teeth of the calyx subulate, glabrous, unequal. *S.* P. O.

procumbens, W. (hop clover, yellow clover. W. y. J. ☉.) procumbent; stem hairy: leafets obovate, sub-marginate, glabrous: stipules short,

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Trichostema. Gr. *thrix (trichos)* hair, and *stēma*, stamen, alluding to the long capillary filaments.

Trientalis. Lat. *triens*, the third of any thing, it being about a third of a foot high.

Trifolium. Lat. *tres*, three, and *folium*, leaf, that being its usual number.

(1) europæa Mx. not L. (2) aureum, Pollich.

lanceolate, acute: spikes oval, imbricate: banner deflexed, furrowed, permanent. 3—6 i. S. B. P. M. C.

campestre, Sr. (1) (y. ☉.) spike ovate, imbricate: banner deflected, permanent, leafets lance-ovate, middle one petioled: stem sub-diffuse: branches decumbent. P.

stolonif'erum, M. (buffalo clover. W. w. J. 2ℓ.) sending off suckers from the base of the stem: leaves obovate, unequally serrate on the sides, and toothed at the end: teeth of the calyx narrow-lanceolate or subulate, longer than the tube: florets large, in a head-form spike.*

altissimum, Doug. (W.) very glabrous: stem erect, tall: leafets lance-linear, toothleted, petioles very long; upper leafets sub-sessile; stipules lance-acuminate, adnate to both sides of the petiole: little heads oblong: calyx glabrous; teeth 4 above, twisted. R.

spinulo'sum Hk. (W.) prostrate, glabrous: leafets oblong, acute at both ends, spine-toothed: stipules ovate acuminate, spine serrate: involucre 1-leaved: little heads sub-globose, short: calyx a little shorter than the corol. N. W. Lakes. R.

cyathiferum, Hk. (W.) prostrate, ramose, glabrous: leafets oblong, or obovate-wedge-form, mucronate, spine-toothed: involucre large, 1-leaved, cap form: little heads hemispheric many-flowered. West of Rocky Mt.

involucratum, W. (☉.) little heads roundish, peduncled; surrounded by an orbicular, toothed receptacle: stipules oblong, awned, toothed: stem erect, branched. R.

nanum, T. & J. (W. p. 2ℓ.) little heads few-flowered, umbelled: legumes 4—5-seeded: calyx glabrous; teeth nearly equal: leafets obovate-oblong, acuminate: stem cespitose, erect. 1—2 i.

Southern.

carolinianum, Mx. (p-w. Ap. 2ℓ.) small, procumbent: leafets obcordate, (upper one only emarginate) hairy toothed: stipules 2-cleft: umbels capitate, peduncled, reflected, few-flowered: corol scarcely exserted: legumes 3—4-seeded. 3—10 i.

microcephalum, Ph. (W. w-p. Ju. 2ℓ.) ascending, pubescent: leafets obovate, emarginate, denticulate: stipules ovate, acuminate: heads very small, peduncled, few-flowered: flowers sessile: involucre ovate, awned: calyx awned, as long as the corol. California.

Trifolium, MELILOTUS.

6—3. TRIGLO'CHIN. 5. 7.

maritimum, (2) (arrow-grass. W. g. Ju. 2ℓ.) fruit ovate-oblong, of six united capsules. The capsules vary in number from 3 to 6. Sphagnus swamps. 9—15 i. C. O. D.

Triglochin. Gr. *treis*, three, and *glochin*, an angle, corner or point, alluding to the three pointed capsule.

(1) procumbens, S. agrarium, C. (2) elatum, N.

*I drew this description from a dried specimen in Prof. Beck's collection, and published it 1818. Pursh had drawn one from the same specimen. As I have not seen any improved description of this plant in the floras of those who have examined Muhlenbergh's herbarium, I retain this for the present.

palustre, (marsh arrow grass. W. g. Ju. 2ſ.) flowers triandrous :fruit of three united capsules, nearly linear, attenuated at the base. 6—12 i. O. Onondaga.

triandrum, Mx. (Ju.) triandrous: flowers 3-cleft, short-pedicelled: capsules roundish triangular: leaves sub-setaceous, almost as tall as the spike or scape. 6—9 i. P. Canada.

16—10. TRIGONEL'LA. 32. 93.

Exotic.

fœnum-græcum, (fenugreek. ☉.) legumes sessile, solitary, straight, erectish, sub-falcate, acuminate: stem erect: leaves wedge-oblong.

Southern.

sericea, Ph. (1) (y. Ju. ☉.) leaves ternate, sessile, oblong, acute, silky-villose: peduncles axillary, 1-flowered, longer than the leaf: flower 1-bracted: divisions of the calyx linear: legume glabrous, very long.

6—3. TRIL'LIUM. 11. 12.

ses'sile, (2) (W. p. M. 2ſ.) flower sessile, erect: petals lanceolate, erect, twice as long as the calyx: leaves sessile, broad-ovate, acute. 8—10 i. *S.* P. Charleston, S. C. Florida.

petiolatum, Ph. (W. p. J. 2ſ.) flower sessile, erect: petals lance-linear, erect, a little longer than the calyx: leaves very long-petioled, lance-oval, acute.

erythrocarpum, Mx. (3) (smiling wake-robin. A. w. & r. M. 2ſ.) peduncle erectish: petals lance-ovate, acuminate, recurved, almost twice as long as the narrow-leaf calyx: leaves ovate, acuminate, rounded at the base, abruptly petioled. 8 i. *S.* T. F. N. V. White Mts.

pusil'lum, Mx. (4) (dwarf wake-robin. r. M. 2ſ.) peduncle erect; petals scarcely longer than the calyx: leaves oval-oblong, obtuse, sessile. *S.* P.

pen'dulum, W. (5) (nodding wake-robin. W. w. M. 2ſ.) peduncle inclined, flower pendulous, petals flat, ovate, shortly acuminate, nearly equal with the calyx: calyx ovate-acuminate: leaves roundish-rhomboidal, acuminate, sub-sessile. F. T. B.

purpu'reum, Kin. (A. p.) leaves spatulate-ovate, acuminate, net-veined: flowers peduncled, nodding: petals larger than the calyx. Nearly allied to, but distinct from, the preceding. E.

erectum, (6) (false wake-robbin. W. p. w-y. M. 2ſ.) peduncle erect or erectish, with the flower a little nodding: petals ovate, acuminate, spreading, equalling the calyx: leaves rhomboid, acuminate, sessile. Var. *atropurpureum*, petals large, dark purple. Var. *album*, petals smaller, white; germ red. Var. *flavum*, petals yellow: both petals and calyx leaves longer and narrower. H. H. E. 12 to 18 inches high. Leaves often 3 to 4 inches broad. Peduncle about 3 inches long. 9—16 i. *S.* T. C. F. N. V.

Trigonella. A diminutive of Lat. *trigona*, alluding to its little triangular flower.

Trillium. Lat. *trilix*, triple, from the prevalence of the number three. (1) americana, N. Lotus, Ph. (2) recurvatum, Bk? (3) pictum, Ph. undulatum, W. (4) pumilum, Ph. (5) cernuum, Ph. Bw. E. 4th ed. not L. (6) rhomboideum, Mx.

obovatum, Ph. (r-w. 2f.) peduncles erect: petals obovate, obtuish, flat, spreading, scarcely longer or broader than the calyx: leaves rhomb-ovate, acuminate, close-sessile.

grandiflorum, (1) (W. w. M. 2f.) peduncle a little curved, and the flower a little nodding: petals lance-spatulate, connivent at the base, much larger than the calyx: leaves broad-rhomb-ovate. Berries dark purple. 1 f. *S.* P. V. O. Johnstown, Cambridge, and Utica, N. Y. Lake Erie.

nivale, Riddell. (W. w. Mar. 2f.) stem glabrous: leaves short-petioled, oval, obtuse, glabrous, 5-nerved: peduncle erect: sepals lance-ovate, obtuse, 5-nerved: petals spatulate-obovate, obtuse, nerved, one third longer than the calyx. 2—3 i. Banks of the Scioto river.

Southern.

sessile, (2) (W. r-w. M. 2f.) peduncles recurved: petals lanceolate, acuminate, larger than the calyx; leaves obovate and oval, tapering to the base, acuminate. 12—18 i.

stylosum, (3) (A. r-w.) slender: peduncle much shorter than the flower, recurved; petals undulate, spreading, oblong, obtuse, larger than the calyx: germ styliferous: style 1, as long as the stigma: leaves sub-petioled, lance-oval, acute at both ends. 8—10 i.

nervosum, E. (r-w. Ap.) peduncle recurved: petals lance-oblong, larger than the calyx: leaves lanceolate and ovate, acute at each end, membranaceous, nerved. 6—8 i.

ovatum, Ph. (W. p. Ap. 2f.) peduncle erect: petals oblong, acute, spreading, a little longer than the linear calyx: leaves ovate, gradually acute, closely sessile.

5—1. TRIOS'TEUM. 48. 58.

perfoliatum, (4) (fever root, horse-ginseng, wild coffee. O. p. J. 2f.) leaves oval, acuminate, connate, sub-pubescent beneath: flowers sessile, whorled. Berries purple or yellow. 2—4 f. *S.*

Southern.

angustifolium, W. (5) (W. A. y. Ju. 2f.) leaves lance-oval, sub-connate: peduncles opposite, 1-flowered: stem hispid. 2—3 f. K.

18—1. TRIPHO'RA,* N. (6) 7. 21.

pendula, M. (7) (three-bird orchis. W. w-p. Au. 2f.) root tuberous: stem leafy, about 3-flowered at the top: leaves clasping, ovate, alternate: lip entire. 4—6 i. *S.* P. Y. V. O. N. Westfield, Mass.

Triosteum. Gr. *treis*, three, and *osteon*, bone, from the three hard seeds.

Triphora. Contracted from Plukenet's name, *trianthophorus*, bearing three flowers.

(1) rhomboideum, Var. grandiflorum, Mx. (2) catesbæi, E. (3) cernuum, Mx. (4) majus, Mx. (5) minus, Mx. (6) Arethusa, L. (7) trianthophorus, Sw. parviflora, Mx. nutans, Le Conte.

*See note to Orchis.

17—2. TRIPOLIUM. 49. 55.

pauciflorum, Nees. Described under Aster.

angustum, Lindl. ( ) leaves linear, serrulate-scabrous, glabrous: stem narrow, very stiffly erect; branches straight racemose: leafets of the imbricate, hemispheric calyx linear, acute: rays inconspicuous. A var. has one-flowered branches. Another var. has many-flowered branches.

[19—3. TRIP'SACUM. 4. 10.

dactiloides, (sesame grass. J. 2f.) spikes numerous, (3—4,) aggregate: florets staminate near the summit; pistillate below. Var. *monostachyon*, spike solitary. 3—5 f. S. Y. C.

Southern.

cylindricum, Mx. ( ) spike solitary, cylindrical, separating into short joints: flowers all perfect. Perhaps a Rottbollia. E.

3—1. TRIPTEREL'LA. 40. 18.

Southern.

capitata, Wr. (1) (w. J. ☉.) flowers in a terminal head: angles of the germ scarcely winged. 6—8 i.

coerulea, M. (2) (b. S. ☉1) flowers few in a terminal raceme: angles of the germ distinctly winged. 2—4 i.

3—2. TRISE'TUM. 4. 10.

palustre, Mx. (3) (J. 2f.) panicle contracted, nodding, somewhat whorled: calyx 2—3-flowered: florets smooth, acuminate; lower one awnless: lower valve of the upper floret bicuspidate, awned below the tip. 1—2 f. S. O. N.

purpurascens, T. (2f.) panicle very simple, somewhat racemed, few-flowered: calyx few-flowered; glumes very unequal, entire: culm and leaves smooth: stipules very short, truncate. 2 f. S.

subspicatum, (4) (2f.) panicle somewhat spiked: awn at length reflexed, exceeding the calyx.

3—2. TRIT'ICUM. 4. 10.

pauciflorum, Sz. (W.) spike simple, erect; spikelets about 2-flowered: culm simple, leafy, terete, deeply striate, smooth: leaves somewhat glaucous, scabrous on the ribs and margin. 2 f.

Tripolium. Gr. *treis*, three, *poleo*, to plough or to furrow; on account of the leaves being three-furrowed.

Tripsacum. Gr. *tripsis*, a rubbing or grinding, alluding either to the use of the grain or to the polished aspect of the glumes.

Tripterella. A diminutive of Gr. *treis*, three, and *pterux*, wing, alluding to the three little wings proceeding from the corol.

Trisetum. Lat. *tres*, three, and *seta*, bristle, on account of the three beards or awns of the flower.

Triticum. Lat. *tritum*, ground or rubbed, from the manner in which its grains were prepared.

(1) Anonymous, Wr. (2) Burmannia biflora L. (3) Avena, Mx. Aira palleus, M. (4) airoides, Pb. Aira, L.

Exotic.

hybernum, (winter wheat. J. ♂.) calyx-glume 4-flowered, tumid, even, imbricate, abrupt, with a short compressed point: stipule jagged: corols of the upper florets somewhat bearded. There are several varieties of this species which are induced by culture.

æstivum, (summer wheat. J. ☉.) calyx 4-flowered, tumid, smooth, imbricated, awned. Smith says this may be a variety of the last.

composi'tum, (egyptian wheat.) spike compound: spikelets crowded, awned.

Triticum, AGROPYRON.

12—13. TROL'LIUS. 26. 61.

laxus, Sy. (1) (globe flower. y. M. 2ſ.) petals 5, oblong spreading: nectaries shorter than the stamens. Petals always, or mostly five, obovate: capsule. short, abrupt, crowned with the elongated style. P. R.

8—1. TROPÆO'LUM. 23. 73.

Exotic.

majus, (nasturtion, indian cress. y. & r. Ju. ☉. & 2ſ.) leaves peltate, sub-repand: petals obtuse, some of them fringed.

17—1. TROX'IMON. 49 53.

Southern.

glaucum, Ph. (W. y. Ju. ♂.) scape 1-flowered, glabrous: leaves lance-linear, flat, very entire, glaucous on both sides: divisions of the calyx imbricate, acute, pubescent.

cuspidatum, Ph. (2) (W. y. M.) scape 1-flowered, sub-pubescent: leaves linear, undulate and tomentose on the margin: divisions of the calyx imbricate, cuspidate, glabrous.

Troximon, KRIGIA.

6—1. TU'LIPA. 10. 14.

Exotic.

suave'olens, (sweet tulip. M. 2ſ.) small: stem 1-flowered, pubescent: flower erect: petals obtuse, glabrous: leaves lance-ovate.

gesneriana, (common tulip. M. 2ſ.) stem 1-flowered, glabrous: flower various-colored, erect: petals obtuse, glabrous: leaves lance-ovate.

Trollius. A barbarous word from the obsolete German *trol*, expressing any thing round.

Tropæolum. Gr. *tropaion*, a trophy, from a fancied resemblance in the leaves and flower to a spear and helmet.

Troximon. Gr. *trōximon*, eatable, a just name for the original species.

Tulipa. From a Persian word, synonymous with turban, which is not unlike the swelling flower.

(1) americanus, Donn. (2) marginatum, N.

13—1. Tul'lia. 42. 42.

Southern.

pycnan'themoides, (1) (false mountain-mint. W. r-p. Au. 2ℓ.) leaves ovate, acuminate, tapering to the base, remotely toothed, hoary-above, and glaucous beneath: bracts subulate, of the length of the striate calyx. 2—3 f. Tennessee.

5—3. Tur'nera. 37. 79.

cistoides, (y. Ju. ☉.) peduncles axillary, leafless: leaves serrate near the summit. Flowers resemble those of *Cistus carolinianus.*

14—2. Turri'tis. 39. 63.

ovata, Ph. (w. M. ♂.) pubescent: radical leaves petioled, ovate, toothed, obtuse; cauline leaves clasping, oblong, serrate, acute. Resembles the *hirsuta;* perhaps a variety of it, which ought to follow it to the genus Arabis. *S.* P.

glabra, (W.) erect: radical leaves petioled, toothed, having branching hairs; upper ones broad-lanceolate, sagittate, glabrous, half clasping, glaucous: pod narrow linear, stiffly erect: petals scarcely longer than the calyx. R. Naturalized about N. Haven. Hudson's Bay.

stricta, Hk. (W.) erect, glabrous: leaves lanceolate; radical ones petioled, toothed; cauline ones sagittate, half-clasping, sub-dentate: flowers and siliques linear, elongated, stiffly erect. Rocky Mt. and west.

retrofrac'ta, Hk. (W.) erect, white-pubescent or glabrous: leaves lanceolate; radical ones petioled, toothed; cauline ones sagittate, half-clasping, glabrous, sub-dentate: flowers nodding: pods linear, elongated, pedicelled, and bent back. R. Hudson's Bay.

mollis, Hk. (w. ☉.), erect; lower leaves spatulate, sinuate-dentate; upper ones lance-sagittate, very entire; all, with the erect branching stem and pedicels with numerous spreading hairs; softly hirsute: siliques linear-elongated, erect, straight. A.

patula, Graham. (r-p.) erect; leaves lanceolate; radical ones petioled, dentate; cauline ones sagittate, half-clasping, glabrous, sub-dentate: flowers and siliques linear, elongated, very spreading. A var. has the radical leaves scarcely pubescent. Another var. has the radical leaves hoary-pubescent, sub-entire. A. R. Canada.

17—2. Tussila'go. 49. 55.

fur'fura, (colt's foot. y. Ap. 2ℓ.) scape single-flowered, scaly: leaves cor

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Tullia. In honor of Prof. Tully, of New Haven, Conn.

Turnera. In honor of Dr. Wm. Turner, one of the fathers of English botany.

Turritis. Lat. *turris,* a tower or turret, the leaves and flowers giving the stem a pyramidal form.

Tussilago. Lat. *tussis,* a cough, and *ago,* to drive or act upon, from its reputed efficacy.

(1) Discovered and named by M. C. Leavenworth. Dr. Tully, Mr. Leavenworth, and Dr. Solon Smith, were the earliest of Prof. Ives' pupils in New Haven, Conn.

date, angular toothed, downy beneath. The flower appears long before the leaves. 4—6 i. W. T. P. N. C. O. F. V.

SUB-GENUS NARDOSMIA.

frigida, W. (mountain colt's foot. y. M. 2f.) thyrse fastigiate: flowers with rays: leaves roundish-cordate, unequally toothed, tomentose beneath. V.

sagittata, Ph. (W. 2f.) thyrse ovate, fastigiate: flowers with rays: leaves radical, oblong, acute, sagittate, very entire; lobes obtuse.

palmata, W. (W. Ap. 2f.) thyrse fastigiate: flowers with obsolete rays: leaves roundish-cordate, half 7-lobed, gash-toothed, tomentose beneath. N. D.

corymbosa, Hk. ( ) leaves cordate, deeply sinuate-lobed, angular-dentate, tomentose beneath. A.

19—3. TY'PHA. 3. 8.

latifolia, (cat-tail, reed-mace. O. Ju. 2f.) leaves linear, flat, slightly convex beneath: staminate and pistillate aments close together. Wet. 4—6 f. S.

angustifolia, (W. Ju. 2f.) leaves linear, channelled, semi-cylindric below, and flatfish above: staminate and pistillate aments a little separated. Not so large as the last species. Wet. 3—5 f. S. P. F.

U.

Udora, SERPICULA.

16—10. U'LEX. 32. 93.

Exotic.

europæ'us, (furze. M. ♄.) leaves lance-linear, villose: bracts ovate, lax: branchlets erect.

5—2. UL'MUS. 53. 99.

americana, MX. (elm, white elm. O. g-p. Ap. ♄.) branches smooth: leaves oblique at the base, having acuminate serratures a little hooking: flowers pedicelled; fruit fringed with dense down. Var. *pendula*, has hanging branches and smoothish leaves. Rafinesque says this is a distinct species. 40—70 f. S.

fulva, MX. (1) (slippery-elm, red-elm. O. Ap. ♄.) branches scabrous, whitish: leaves ovate-oblong, acuminate, nearly equal at the base, unequally serrate, pubescent both sides, very scabrous: buds tomentose, with very dense yellowish wool: flowers sessile. The bark is very mucilaginous. 20—40 f. S.

nemoralis, (river elm. Ap. ♄.) leaves oblong, smoothish, equally serrate, nearly equal at the base: flowers sessile. S.

racemosa, Thomas. (♄.) flowers in racemes, pedicels in distinct

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Typha. Gr. *tiphos*, a bog or marsh, from its residence.

Ulex. Celt. *ec* or *ac*, a point, which is applicable enough to its appearance.

Ulmus. Lat. *ulmus*, which is from Celt. *elm*, having remained unchanged in English.

(1) aspera, M. rubra, MX. younger.

fascicles, united at their bases: leaves ovate, acuminate, doubly serrate, glabrous above, pubescent beneath: stigmas recurved. A large tree.

Southern.

alata, Mx. (1) (whahoo. March ♄.) branches on each side winged with a cork-like bark: leaves oblong-oval, acute, nearly equal at the base: fruit pubescent, ciliate. 30 f.

3—2. UNI'OLA. 4. 10.

l atifolia, Mx. (W. A. Ap. 2ſ.) leaves broad, flat: panicle loose, nodding: spikelets long-peduncled: florets sub-falcate, monandrous; lowest ones abortive. 4 f. *S.* P.

gra'cilis, Mx. (W. Au. 2ſ.) panicle elongated, racemose, appressed: spikelets 3-flowered: florets spreading, straight, monandrous; lowest ones abortive. 3—4 f. *S.* Y. K.

spica'ta, (2) (W. L. Au. 2ſ.) panicle spiked, straight: leaves involute, distichous, spreading: spikelets 5—9-flowered: florets triandrous. 18 i. *S.* Y. B. C.

stricta, T. & J. (W. 2ſ.) very smooth: leaves narrow, erect: panicle erect, contracted: spikelets linear-oblong, many-flowered: flowers straight, awnless. Intermediate between Festuca and Uniola; perhaps a Ceratochloa. Torrey. 1 f.

Southern.

paniculata, (3) (sea-side oats. L. Ju. 2ſ.) panicle large, compressed: spikes sub-sessile: calyx 4—5-valved: flowers triandrous. 4—8 f.

ni'tida, Bald. (Ju.) leaves flat, narrow: panicle scattered, spreading; spikes few, sub-sessile: calyx 3-valved: flowers monandrous. 2—5 f.

3—2. URALEP'SIS. 4. 10.

aristulata, N. (4) (Au. ☉.) lateral panicles concealed in the sheaths of the leaves: terminal ones partly exsert: calyx 3-flowered: bristle of the corol as long as the lateral cusps. Whole plant covered with a viscid acid secretion. T. 1 f.

Southern.

purpurea, Wr. (5) (S. ☉?) leaves subulate: panicle small, racemed: corol villose; outer valve more than twice the length of the calyx, when mature deeply 3-parted, 3-nerved and reflected; middle division with an awn as long as the valve. Whole plant has a strong saline taste. E. 2 f.

cornuta, E. ( ) culm and leaves very narrow, pilose: panicle slender: middle awn of the corol longer than the valve, finely recurved. 2 f.

Uniola. Lat. *unus*, one, so named from the aggregation of many glumes in one calyx.

Uralepsis. Gr. *oura*, a tail, and *lepis*, a scale or glume, intended to indicate the singularly caudate appearance of the outer corol valve.

(1) pumila, Wr. (2) distichophylla, Rs. Festuca distichophylla, Mx. (3) maritima, Mx. (4) Aira purpurea, M. not Wr. (5) Aira, Wr.

5—8. Uraspermum, N. 45. 60.

clayto'ni, (1) (sweet cicily. O. J. 2f.) leaves compound, hairy; leafets gash-toothed: umbels axillary and terminal, about 5-rayed: style as long as the villose germ, filiform, erect, deflected. Var. *glabrum*, Aikin. Whole plant, including the fruit, glabrous. 2 f. *S.*

hirsutum, Bw. (2) (W. J. 2f.) hirsute: leaves decompound; leafets gash-pinnatifid: styles of the fruit pyramidal, approximate. T. B. C. O. F.

procumbens, (3) (M. ☺.) stem procumbent: leaves decompound; divisions lanceolate, rather obtuse: umbels about 3-rayed: fruit smooth, shining. Var. *boscii*, stem sub-hirsute, erectish: leaves tripinnate. Carolina. 6—12 i. *S.* P. O. M. K*.

19—4. Urti'ca. 53. 98.

pumila, (4) (stingless nettle, rich-weed, clear weed. O. Ju. ☺.) leaves opposite, ovate, acuminate, 3-nerved, serrate; lower petioles as long as the leaves: flowers monœcious, triandrous, in corymbed heads, shorter than the petioles. Stem smooth and shining; when in deep shades, the stem is pellucid. 8—12 i. *S.*

urens, (dwarf stinger. J. ☺.) leaves opposite, oval, about 5-nerved, sharply serrate: spikes glomerate, in pairs. 9—14 i. *S.* N. P. T. Y. B. C.

dioica, (common nettle. O. J. 2f.) leaves opposite, cordate, lance-ovate, coarsely serrate: flowers diœcious: spikes panicled, glomerate, in pairs, longer than the petioles. 2—3 f. *S.*

procera, W. (great nettle. O. Ju. 2f.) leaves opposite, cordate, lance-ovate, serrate: petioles ciliate: flowers diœcious: spikes somewhat branched, glomerate, in pairs, equalling the petiole. Var. *gracilis*, slender: leaves lance-ovate: leaves and petioles hispid. Not so common as the last, which, if examined before full maturity may be mistaken for this. 3—4 f. *S.*

capitata, (J. 2f.) leaves alternate, heart-ovate, acuminate, serrate, 3-nerved, twice as long as the petiole: glomerules spiked; the spikes are solitary, shorter than the leaves, leafy above: stem naked. 3—5 f. *S.* P. Canada.

canadensis, (5) (canada nettle, albany hemp. Ju. 2f.) leaves alternate, heart-ovate, acuminate, serrate, hispid both sides: panicles axillary, mostly in pairs, spread-branched; the lower staminate ones longer than the petioles; upper pistillate one elongated: stem covered with stings, 5—6 feet high. Var. *divaricata*, has smoothish leaves, and sometimes very spreading, solitary panicles. 4—6 f. *S.* T. P. B. C. O. F. N.

Uraspermum. Gr. *oura*, a tail, and *sperma*, a seed, the fruit being caudate.

Urtica. Lat. *uro*, to burn, from its stinging properties.

(1) Myrrhis dulcis, 2d ed. Osmorhiza longistylis-brevistylis. Scandix dulcis, M. Scandix, Mx. (see N.) Chaerophyllum, Ph. Myrrhis longistylis, T. (2) claytoni, T. not Mx. (3) Scandix, L. Chaerophyllum, Lk. Myrrhis, Sl. (4) Adesia trinerva, R. (5) whitlowi, M.

Southern.

chamoedroides, Ph. (March. ☉.) leaves opposite, sub-sessile, ovate, serrate, strigose beneath: clusters of flowers axillary, sessile, sub-globose, reflexed. Prickles white, conspicuous, stimulant. 4—6 i.

2—1. UTRICULA'RIA. 24. 35.

ceratophylla, Mx. (1) (hooded millfoil. W. y. Ju. ♂.) leaves inflated, 6-whorled, with branching, capillary filaments on the sides: flowers sub-corymbed; upper lip of the corol somewhat 3-lobed; lower lip deeply 3-lobed: spur short, flattened-conoid, obtuse, deeply emarginate, appressed to the lower lip of the corol: fruit nodding: root very long, branching. 8 i. *S.* P. Y. B.

macrorhiza, (2) (bladder wort. W. y. J. 2ſ.) leafless, floating, scape many-flowered, furnished with large scales: flowers racemed: upper lip of the corol sub-3-lobed: lower lip entire, with the sides deflected: palate large, with brown stripes: spur elongated, approaching the lower lip of the corol, obtuse, emarginate, conic at the base, linear at the tip: fruit nodding: root very long, very branching. 6—8 i. *S.* T. B. P. C. O. F. N.

striata, Le Conte. (3) (y. J. ☉.) leafless, floating: scape with 1—2 scales, 5—6-flowered: upper lip of the corol broad, expanded, 3-lobed; intermediate lobe striate; lower lip sub-3-lobed, sides reflected: palate with brown spots: spur nearly linear, elongated, obtuse, emarginate, appressed to the lip of the corol and nearly as long. *S.* Y. P. N.

gibba, (y. Ju. 2ſ.) leafless, floating: scape naked: upper lip of the corol emarginate; lower lip sub-3-lobed; middle lobe sub-revolute, crenate: spur gibbous, incurved, obtuse, entire. 1—3 i. *S.* T. Y. Pittsfield.

fornicata, Le Conte. (4) (y. Au. ☉.) leafless, floating: scape naked, 1—2-flowered: upper lip of the corol 3-lobed; middle lobe arched over the palate; lateral ones appressed: lower lip entire: spur incurved, conoid, obtuse, entire, appressed to the lower lip of the corol. *S.*

purpurea, Wr. (5) (W. p. Au. 2ſ.) leafless, floating: scape 2—3-flowered: upper lip of the corol truncate, emarginate; lower lip 3-lobed; lateral lobes saccate: palate small: spur flattened-conoid, entire, appressed to the lower lip of the corol: root branching: branches 4—5-whorled. *S.* P. Y. B. D.

personata, Le Conte. (y. ☉.) leafless, rooting: scape with scales, many-flowered: flowers racemed: upper lip of the corol emarginate, reclined: lower lip small, entire, obtuse or abruptly acute: palate large, prominent: spur linear-subulate, acutish, somewhat pendulous: root small, naked, 4—8 i. *S.*

setacea, (6) (y. J. ☉.) leafless, rooting: scape with scales, setaceous, distantly many-flowered: upper lip of the corol short, entire; the

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Utricularia. Lat. *utriculus*, a little bladder, from the little bladders which serve to float the plant, in some species.

(1) inflata, Wr. (2) vulgaris, Ph. not L. (3) cornuta, Ph. not Mx. fibrosa, E. not Wr. biflora, Vahl? (4) gibba, E. not L. minor, Ph. not L. pumila, Wr? (5) saccata, 4th ed. (6) subulata, Gron?

sides revolute at the tip: lower lip deeply 3-lobed: spur subulate, entire, as long as the lower lip: root small, naked. *S.* C. F.

cornuta, Mx. (leafless bladder-wort. W. y. Ju. 2ℓ.) spur-nectary subulate, lengthened out longer than the corol, nearly vertical, acute: lower lip of the corol broad, 3-lobed; scape with two nearly sessile flowers at the top; no leaves at the base, but having dense alternate tufts of radical leaves. T. B. N. D.

Southern.

longirostris, (y. ☼.) leafless, floating: scape with scales, 1—2-flowered: upper lip of the corol sub-3-lobed: lateral lobes appressed; lower lip rather entire: spur linear-subulate, ascending sub-incurved, emarginate, longer than the lower lip of the corol.

integra, (1) (y. ☼.) leafless, floating: scape with scales, 1—2-flowered: upper lip of the corol sub-three-lobed: lateral lobes sub-involute: lower lip entire: spur flattened-conoid, obtuse, entire, nearly equalling the lower lip.

fibrosa, Wr. (y.) scape 2-flowered: flowers large: spur obtuse: leaves root-shaped, fibrous. This and the next species are not satisfactorily defined. Le Conte.

biflora, Lk. (y. Ju.) nectary subulate, straight, nearly equalling the upper lip: scape about 2-flowered: leaves setaceous.

6—1. Uvula'ria. 11. 12.

perfoliata, (bellwort. O. y. M. 2ℓ.) leaves perfoliate, oval, obtuse, (lance-linear or oval oblong in the young state:) corol bell-liliaceous, scabrous or granular within: anthers cuspidate. 8—12 i. *S.*

flava, S. (2) (y. M. 2ℓ.) leaves perfoliate, oval-oblong, obtuse, undulate at the base: corol tapering to the base, scabrous within: anthers cuspidate. Is this distinct from the preceding? *S.*

grandiflora, S. (3) (W. y. M. 2ℓ.) leaves perfoliate, oblong, acute: petals smooth within; anthers obtusish: nectaries roundish. Flowers large. 9—15 i. *S.* T. V. O.

sessilifolia, (O. y. M. 2ℓ.) leaves sessile, lance-oval, becoming glaucous beneath: petals flat, smooth within: capsule stiped, (raised above the receptacle on a little stem:) stem glabrous. 8—12 i. *S.*

Southern.

puberu'la, Mx. (A.) leaves oval, rounded at the base, somewhat clasping, both sides colored alike: capsule sessile, ovate.

V.

10—1. Vaccini'um. 18. 51.

1. *Leaves deciduous.*

stamin'eum, (squaw whortleberry, deer-berry, dangle berry. O. w. M.

Uvularia. So named from the throat of the flowers; being similar to the uvula of the throat.

Vaccinium. Lat. *vaccinium*, the bilberry, which some say is altered from *baccinium*, a berry.

(1) bipartita, E. (2) Anonymous pudica, W. (3) lanceolata, W. perfoliata major, Mx.

♄.) leaves oval, acute, entire, glaucous beneath: pedicels solitary, axillary, filiform; corol spreading, bell-form; divisions oblong, acute; anthers exsert, awned on the back: berry pear-form. Var. *album*, has the nerves and veins of the leaves hairy, and the berry globose. Pursh makes this variety a distinct species; but Smith says it can hardly be called a variety. Berries of this species are large, green, and mealy glaucous when ripe. 2—3 f. *S.*

dumo'sum, C. (1) (bush whortleberry. O. w. J. ♄.) branchlets, leaves and racemes a little hispid, bedewed with resinous specks; the leaves oblong-obovate, acute at the base, mucronate, entire, both sides colored alike: racemes bracted: pedicels short, axillary, sub-solitary, 2-bracted near the middle: corol bell-form; divisions roundish, including the anthers. Var. *hirtellum*, (2) racemes and calyx pilose: berries hispid. 12—18 i. *S*

frondosum, (3) (blue whortleberry. O. w. M. ♄.) leaves oblong-ovate, obtusish, entire, glabrous, glaucous beneath, bedewed with many resinous dots: racemes lax, bracted: pedicels long, filiform, bracted: bracts linear: corol ovate-bell-form with acute divisions and enclosing the anthers. Var. *lanceolatum*, having lanceolate leaves acute at both ends. Berries large and blue. 3 f. *S.*

resinosum, (4) (black whortleberry. O. p. M. ♄.) leaves slender, petioled, oblong-oval, mostly obtuse, entire, bedewed with resinous specks beneath: racemes lateral, 1-sided: pedicels short, somewhat bracted: corol ovate-conic, 5-cornered. Berries black. One variety has a yellowish-green, and another has a reddish-yellow corol. 1—4 f. *S.*

corymbosum, (5) (giant whortleberry, blue bilberry. O. w. M. ♄.) flower-bearing branchlets almost leafless: leaves oblong oval, acute at both ends; mucronate, sub-entire, sub-tomentose beneath, and hairy both sides when young, but glabrous above, and a little hairy at the veins beneath when mature: racemes short, sessile, with scaly bracts: corols cylindric-ovate: calyx erect: style somewhat exsert. Var. *amœnum*, has the style not exsert, and the racemes are crowded: corol cylindric, and the calyx reflexed. The twigs are reddish, flowers large, with a reddish tinge. Var. *fuscatum*, has the leaves a little serrulate, glabrous: corymbed racemes terminal: pedicels long and nodding: corol cylindric, with short direct divisions: style hardly exsert. Flowers striped with red; calyx brown. Berries black. In wet ground this species grows very large. 4—12 f. *S.*

pennsylvanicum, Mx. (6) (black-blue whortleberry. O. r. g. M. ♄.) branches angled above: dark green: leaves sub-sessile, lance-oval, mucronate, serrulate, both sides shining: fascicles of flowers crowded, sub-terminal: corol ovate, 5-toothed. Very branching, leaves flat, membranaceous, calyx green. 12—18 i. *S.*

virgatum, M. (J. ♄.) leaves oval, acute, smooth, serrulate, or entire: flowering branches elongated, with sessile racemes: corol ovate. Dr. Bigelow thinks this is distinct from the *virgatum* of Pursh. B.

ligustri'num, Mx. (p. r. J. ♄.) branches angular: leaves sub-sessile,

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(1) frondosum, Mx. (2) hirtellum, A. (3) glaucum, Mx. (4) Andromeda baccata, Wm. (5) dismorphum, Mx. album, Lk. amœnum, W. (6) virgatum, V. . tenellum, Ph. not Aiton, Bw.

erect, lanceolate, mucronate, serrulate: fascicles gemmaceous, sessile: flowers nearly sessile: corol oblong-ovate.

tenellum, A. (dwarf whortleberry. A. r-w. M. ♄.) racemes bracted, sessile: corol cylindric-ovate: leaves oblong-oval, somewhat wedge-form, serrulate, nearly smooth. W. P. B. Whitehills.

uliginosum, (r-w. Ap. ♄.) leaves obovate, obtuse, very entire, glabrous above, pubescent and glaucous beneath: flowers sub-solitary, octandrous: corol short-ovate, 4-cleft. Var. *alpinum*, Bw. (1) (wintergreen whortleberry. A.) leaves obovate, entire: flowers sub-solitary: berries oblong, crowned with the style. 1—2 f. Whitehills.

myrtilloi'des, Mx. (Ap. ♄.) leaves narrow, lanceolate, membranaceous, very entire, pubescent on the margin beneath, and near the nerves: flowers scattered, sub-solitary, very short-pedicelled. Labrador.

cæspitosum, Mx. (♄.) small, cespitose, very glabrous: leaves wedge-obovate, round-obtuse, distinctly serrate, membranaceous: flowers on the branches solitary, sub-sessile: corol short-pedicelled. 3 i. Labrador.

2. *Leaves evergreen.*

vi'tis-i'dæa, (bilberry, cowberry. w-r. M. ♄.) low: stem creeping, branchlets erect: leaves obovate, emarginate, revolute, sub-serrulate: shining above, punctate beneath: racemes terminal, nodding: corol bell-cylindric. Sometimes tetrandrous. B. Monadnok. Canada.

ovatum, Ph. (W. M. ♄.) leaves petioled, ovate, acute, revolute, serrate, glabrous, coriaceous: racemes axillary and terminal, bracted, short: corol cylindric: calyx acute.

obtusum, Ph. (W. ♄.) creeping: leaves small, oval, roundish-obtuse at each end, mucronate, very entire, glabrous, coriaceous: peduncles axillary, solitary, 1-flowered.

Southern.

arbo'reum, Marshall. (farkleberry. w. M. ♄.) leaves petioled, obovate, acute at each end, mucronate, glandular-serrate, shining above, net-veined, sub-pubescent beneath: racemes bracted, nodding: pedicels axillary, solitary, filiform: corol cylindric-bell-form: divisions acute: anthers inclosed, awned on the back. 8—20 f. Charleston, S. C. Florida.

pal'lidum, A. (M. ♄.) leaves ovate, acute, serrulate, glabrous: racemes bracted: corol cylindric-bell-form. A doubtful species. Ph.

galezans, Mx. (y-w. M. ♄.) leaves sessile, wedge-lanceolate, sub-serrulate, veined, pubescent: fascicles sessile: pedicels very short: calyx acuminate: corol ovate; throat very compressed: style exsert.

myrtifolium, Mx. (♄.) creeping, very glabrous: leaves petioled, oval, lucid, revolute, sparingly denticulate: fascicles axillary, sub-sessile, few-flowered: corol sub-globose-bell-form, with 5 small short teeth: anthers awned on the back. Leaves perennial: berries black.

crassifolium, Ph. (r. J. ♄.) diffuse: branches ascending, lax: leaves lance-oblong, acute at each end, serrate, rigid, glabrous: racemes terminal, corymbed, bracted, few-flowered; flowers nodding: calyx appressed: corol bell-form, spreading, deeply and acutely 5-toothed. Leaves perennial.

(1) gaultheroides, Bw.

ni'tidum, Ph. (r. M. ♄.) erect, very branching: branches 2-ranked: leaves shining, oval-obovate, acute at each end, glabrous, serrate: racemes terminal, corymbed, bracted, nodding: corol cylindric. Leaves evergreen.

myrsini'tis, Mx. (p. M. ♄.) erect, very branching, small-leaved: leaves sessile, oval, mucronate, sub-serrulate, smooth and lucid above, subhirsute and scabrous punctate beneath: fascicles gemmaceous, terminal and lateral: corol oblong-ovate. Var. *lanceolatum*, leaves lanceolate, acute at each end. Var. *obtusum*, leaves roundish-obovate. Leaves evergreen.

buxifolium, Ph. (1) (W. w. J. ♄.) low: leaves obovate, crenate-toothed, glabrous: fascicles crowded, sub-sessile, axillary and terminal: corol short-ovate: filaments glandular: stigma capitate. Leaves evergreen.

Vaccinium, Oxycoccus.

3—1. Vagina'ria. 3. 9.

Southern.

scirpoides, Mx. (2) (2f.) culm leafless, sheathed: spike ovate, sub-solitary; scales lance-spatulate. 12—18 i.

3—1. Valeria'na. 48. 56.

dioica, W. (r. J. 2f.) glabrous: radical leaves sub-spatulate-ovate, entire, very long petioled; cauline ones few, pinnatifid: divisions lanceolate, very entire and sub-dentate, obtusish. Hudson's Bay.

pauciflora, Mx. (W. w. J. 2f.) lower leaves pinnate; upper ones ternate; leafets oval, acute, serrate: panicle lax, few-flowered. 3 f. *S.* K.

sylvatica, Banks. ( ) glabrous; erect: stem striate: radical leaves petioled, ovate, or sub-spatulate, undivided; cauline ones parted-pinnate; divisions lance-ovate, somewhat very entire: flowers perfect: lobes of the stigma minute, 2—3: fruit ovate, compressed, glabrous. R. Newfoundland.

capitata, W. ( ) stem erect, glabrous, pubescent at the joints: radical leaves petioled; sub-rotund, simple; cauline ones sub-sessile, simple or gash-ternate; leafets sinuate-serrate, ovate: upper one large: panicle densely capitate: bracts very long: tube of the corol elongated: fruit ovate, compressed, glabrous. A.

Exotic.

phu, (valerian. 2f.) cauline leaves pinnate, radical ones undivided: stem smooth.

Southern.

obovata, Dc. Described under Phyllactis.

Vaginaria. Lat. *vagina*, a sheath, from the stem being clothed with leafless sheaths.

Valeriana. Lat. *valeo*, to be powerful, in allusion to the many powerful virtues of the plant.

(1) brachycerum, Mx. (2) richardi, P. Fuirena, Mx.

Valeriana, FEDIA.

3—1. VALE'RIANEL'LA. 48. 56.

coerulea, (1) (b-w. J. ☼.) stem dichotomous above, ciliate-angled: radical leaves obovate; cauline ones spatulate-oblong, ciliate; upper ones toothed at the base: involucre ciliate, scarious at the tip: fruit compressed, rhomboidal: A very small species. The size of the plant and habit is the most striking difference between this and the Fedia radiata. 4 i. Maryland.

20—2. VAL'LISNE'RIA. 1. 22.

spiralis, var. *americana*, (tape grass. W. w. Au. 2ℓ.) leaves floating, linear, obtuse, serrulate at the summit, tapering at the base: peduncle of the pistillate flower long; of the staminate short and erect. In the river Hudson from Stillwater to the Highlands. *S.* T. C. P. B. N. H. Peekskill.

6—3. VERA'TRUM. 10. 13.

viride, (2) (itchweed, indian poke, white hellebore. O. g. J. 2ℓ.) racemes panicled; bracts of the branches lance-oblong, the bract of the flowers longer than the sub-pubescent peduncles: leaves broad-ovate, plaited, many-nerved. 3—5 f. *S.*

angustifolium, Ph. (W. A. g-y. J. 2ℓ.) flowers monœcious and diœcious: panicle simple: petals linear: leaves very long-linear, keeled. Tall. *S.* K.

Southern.

parviflorum, Mx. (A. g. Ju.) leaves lance-oval, flat, glabrous; panicle slender, spreading: petals acute at each end, staminiferous.

Veratrum, HELONIAS.

5—1. VERBAS'CUM. 28. 38.

thap'sus, (mullein. O. y. J. ♂.) leaves decurrent, downy both sides: stem generally simple, though sometimes branched above: flowers in a cylindric-spike. When botanists are so infatuated with wild speculation, as to tell us the mullein was introduced, they give our youngest pupils occasion to sneer at their teachers- Var. *thapsoides*, stem branches. 3—6 f. *S.*

blatta'ria, (moth mullein, sleek mullein. W. p-w. w-y. J. ♄.) leaves glabrous, tooth-serrate; lower ones oblong-obovate; upper ones heart-ovate

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Valerianella.

Vallisneria. In honor of Anthony Vallisneri, a noted French botanist.

Veratrum. Some derive it from Lat. *vere atrum*, truly black, from its black root.

Verbascum. Lat. As if *barbascum*, from *barba*, a beard, from its hairy, shaggy leaves.

(1) Fedia coerula, MSS. of Aikin. This species was not received until after Fedia was in print: and since some authors have removed all our species of Fedia to this genus, it is introduced here.

(2) album, Mx.

clasping: pedicels 1-flowered, in a terminal panicle-raceme. Var. *alba*, leaves toothed: flowers white. Var. *lutea*, (1) leaves doubly serrate: flowers yellow. 2—3 f. *S.* T. N. Y. P. B. C. O. H. M. F.

lychnit'tis, (W. y. J. ♂.) leaves oblong-wedge-form, white-downy beneath: spikes lax, lateral and terminal. *S.* P.

13—1. VERBE'NA. 42. 41.

spuria, (W. b. Ju. 2f. ♂.) stem decumbent, with spreading branches: leaves in many-cleft divisions: spikes filiform: bracts exceeding the calyx. 1—2 f. *S.* P. Y. C.

hastata, (vervain, simpler's joy. O. p-w. Ju. 2f.) erect, tall: leaves lanceolate, acuminate, gash-serrate; lower ones sometimes gash-hastate: spikes linear, panicled, sub-imbricate. Var. *pinnatifida*, has the leaves gash-pinnatifid, coarsely toothed. Var. *oblongifolia*, leaves lance-oblong, deeply-serrate, acute: spikes filiform, panicled. 2—5 f. *S.*

urticifolia, (nettle-leaf vervain. O. w. Ju. 2f.) erect, sub-pubescent: leaves ovate, acute, serrate, petioled: spikes filiform, axillary and terminal: flowers remotish. 2—4 f. *S.*

angustifolia, Mx. (2) (pigmy vervain. W. b. J. 2f.) low, erect: leaves lance-linear, tapering to the base, thinly serrate, with channelled veins: spikes filiform, solitary, terminal or axillary. 1 f. *S.* N. P. Y. M. C. H. Peekskill.

Southern.

aubleʹtia, (3) (W. p. M. 2f.) assurgent: spikes solitary, imbricate, long-peduncled: divisions of the corol emarginate: leaves oval, deeply serrate and divided, petioled.

bracteosa, Mx. (4) (W. p. Ju. 2f.) small, decumbent, very hirsute: leaves laciniate: flowers spiked, sub-imbricate: spikes squarrose with very long-linear bracts, spreading every way. D.

paniculata, Lk. (W. Ap. Ju. 2f.) erect, somewhat scabrous: leaves lanceolate, coarsely serrate, undivided: spikes filiform, imbricate, corymb-panicled. 4—6 f.

diffusa, Lk. (p. 2f.) erect, very branching: leaves lance-ovate, serrate, sub-pubescent: spikes very long, lax, panicled, very diffuse.

caroliniana, (5) (W. p. J. 2f.) erect, scabrous: leaves oblong-obovate, obtuse, unequally serrate, tapering to the base, sub-sessile: spikes very long, filiform: flowers distinct. 2 f. Charleston, S. C.

stricta, Vent. (W. b. Ju. 2f.) hirsute, hoary: stem stiffly erect: leaves sessile, obovate, serrate, sub-tomentose, very hirsute: spikes straight, imbricate, somewhat fascicled. Var. *mollis*, T. & J. (W. p.) stem erect, simple, terete, villose: leaves ovate, acutish, unequally gash-toothed; teeth acute, hirsute above, soft-villose beneath: spikes dense-flowered, straight, terminal, somewhat in threes. Probably a distinct species. T. D.

bipinnatifida, N. (W. b. J. 2f.) somewhat erect, hirsute: leaves 3-cleft, bipinnatafid: divisions linear: seeds deeply punctate.

Verbena. Lat. *verbena*, from Celt. *ferfuen*, meaning to remove the stone, whence the English vervain.

(1) claytoni, Mx.

(2) rugosa, W. (3) longiflora, Lk. Buchnera canadensis, L.

(4) Zapania, Lk. (5) Phryma caroliniensis, Wr.

17—2. VERBESI'NA. 49. 55.

siegesbeckia, Mx. (1) (crownbeard. y. Ju. 2ſ.) stem winged: leaves opposite, lance ovate, acuminate at both ends, sharply serrate: panicle brachiate: flowers in fascicles on the ends of the branches. 3—6 f. *S.* P. M. Charleston, S. C.

virginica, (w. Ju. 2ſ.) stem narrow-winged: leaves alternate, broad-lanceolate, sub-serrate: corymb compound: calyx oblong, pubescent: ray-florets 3 or 4. 3—6 f. *S.* P.

Southern.

sinuata, E. (2) (w. Oct. 2ſ.) leaves alternate, sessile, sinuate, attenuate at the base; flowers corymbed: calyx imbricate. 4—6 f.

17—1. VERNON'IA. 49. 55.

noveboracensis, (3) (flat-top. p. Au. 2ſ.) tall: leaves thick-set, lanceolate, serrate, rough: corymb fastigiate: scales of the calyx filiform at the apex. 4—6 f. *S.* B. P. C. H. M. F. N.

præal'ta, (4) (W. r. Au. 2ſ.) stem tall, angled, thickly pubescent: leaves thick set lanceolate, acutely serrate, pubescent beneath: corymb fastigiate: scales of the calyx ovate, acute, awnless. Resembles the preceeding, and probably only a variety. 4—7 f. *S.* P.

corymbosa, Sz. & Keating. (W. r.) stem sulcate, sub-scabrous: leaves thick-set, sessile, sub-clasping, lanceolate, acuminate, sharp-serrate below, entire towards the apex, scabrous above, smooth and hollowed-punctate beneath: corymb terminal fastigiate: scales of the calyx oval, obtuse, ciliate. 1 f.

bald'wini, T. & J. (W.) stem soft pubescent: leaves lance-ovate, sharp-serrate, scabrous above, pubescent beneath: corymb diffuse, sub-fastigiate: calyx-scales lanceolate, squarrose, reflexed, scabrous pubescent.

Southern.

oligophylla, Mx. (p. Ju. 2ſ.) stem simple, branching above: radical leaves oval; cauline ones lanceolate; all toothed: corymb-panicled: scales of the calyx lanceolate, acuminate. Varies with the flowers sub-sessile, and peduncled. 2 f.

scaber'rima, N. (p. Ju. 2ſ.) leaves lance-linear, acute, close-sessile, very scabrous, nearly entire: corymb sub-umbelled, few-flowered: scales of the calyx lanceolate, naked, filiformly acuminate. Stem simple. 2 f.

angustifolia, (p. Ju. 2ſ.) stem simple: leaves numerous, long-linear, nearly entire: corymb sub-umbelled: scales of the calyx rigidly mucronate. 3 f.

tomento'sa, E. (5) (p. Au. 2ſ.) stem slender, tomentose above: leaves long, narrow, lanceolate, very acutely serrate, slightly scabrous above,

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Verbesina. Altered from *verbena*, to which *valata* bears resemblance.

Vernonia. In honor of Wm. Vernon, an industrious collector of American plants.

(1) Siegesbeckia occidentalis, L. (2) laciniata, N. (3) Chrysocoma gigantea, Wr.? (4) Serratula, L. Chrysocoma tomentosa, Wr.? (5) Chrysocoma tomentosa, Wr.?

hoary-tomentose beneath: corymb fastigiate: scales of the calyx filiform at the apex. 3—5 f.

fasciculata, Mx. (W. Au. 2f.) leaves long-linear, sparingly serrate: flowers corymbed, erect, approximate: calyx ovoid, smooth; scales unarmed.

altis'sima, N. (1) (W. p. Au. 2f.) stem glabrous: leaves lanceolate, serrate, somewhat scabrous: calyx small hemispheric; scales ovate, acute, ciliate, unarmed, closely appressed. Var. *marginata*, T. &. J. (W. p.) stem glabrous: leaves narrow-lanceolate, glabrous, very entire: corymb fastigiate: calyx hemispheric-turbinate: scales ovate acute, arachnoid-ciliate, a little mucronate, close-appressed. This may be a distinct species. T.

2—1. VERONI'CA. 40. 37.

officinalis, (speedwell. W. b. M. 2f.) spikes lateral, peduncled: leaves opposite, obovate, hairy: stem procumbent, rough-haired. 9—12 i. *S.* T. Y. C. P. M. N. B. H.

serpyllifolia, (paul's betony, smooth speedwell. O. b. M. 2f.) racemes terminal, sub-spiked: leaves ovate, glabrous, crenate: capsule about as long as the styles. 2—6 i. *S.*

alpi'na, L. (A.) corymb terminal: leaves opposite, lance-oblong, acute, toothed: calyx hispid.

anagallis, (brook pimpernel, long leaved brooklime. W. b. J. 2f.) racemes opposite, long, loose: leaves lanceolate, serrate: stem erect. 12—18 i. *S.* O. T. Y. N. P. C. F. Canada.

beccabun'ga, (brook-lime. b. J. 2f.) racemes opposite: leaves oval, obtuse, sub-serrate, glabrous: stem procumbent, rooting at the base. Probably a variety of the last. 9—18 i. *S.* B. P. C. F. N.

scutella'ta, (scull-cap speedwell. O. b. J. 2f.) racemes lateral, alternate; pedicels divaricate: leaves lance-linear, somewhat toothed. 9—12 i.

arven'sis, (wall speedwell. O. w-b. M. ☺.) flowers solitary, nearly sessile: lower leaves heart-ovate, serrate, petioled; floral leaves lanceolate; sessile, longer than the peduncles; divisions of the calyx unequal. Var. *reniformis*, leaves sessile, reniform, entire. This variety is made a distinct species by Rafinesque. 3—8 i. *S.*

agres'tis, (field speedwell, neckweed. W. b. M. ☺.) flowers solitary, leaves heart-ovate, serrate, petioled: stem procumbent, pubescent: segments of the calyx ovate, equal, pilose. 5—10 i. *S.* P. Y. B.

peregri'na, (2) (purslane-speedwell. O. w. M. ☺.) flowers sessile, solitary: leaves glabrous, lance-linear, toothed and entire, obtuse, lower ones opposite: stem erect. 4—8 i. *S.*

hederifolia, (ivy speedwell. w-b. M. ☺.) flowers solitary: leaves equalling the petioles, round-cordate, 5-lobed: upper ones 3-lobed: segments of the calyx cordate, acute, ciliate: stem procumbent. Y.

Southern.

reniformis, Ph. (W. b. J. 2f.) spikes peduncled; peduncles lateral, ax-

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Veronica. Etymology obscure; the common one is Lat. *verus*, true, and Gr. *eikŏn*, a figure; probably this plant was dedicated to St. Veronica.

(1) Chrysocoma gigantea, Wr.? (2) caroliniana, Wr. carnulosa, Lk.

illary, 1-bracted: leaves opposite, long-petioled, heart-reniform, gash-crenate: stem creeping.

Veronica, LEPTANDRA.

14—1. VESICARIA. (1) 39. 63.

didymocarpa, Hk. (W.) white downy, down stellated: radical leaves broad-ovate-spatulate; the rest lanceolate, sub-entire; calyx equal: silicles large, inflated, in pairs. Rocky Mts. and west.

arctica, Hk. ( ) stellately tomentose; hoary: radical leaves spatulate; the rest sub-linear, very entire: calyx equal: silicles globose, longer than the somewhat thickened style. A. Canada.

16—10. VEXILLA'RIA. Ea. (2) 32. 93.

virginiana, W. (butterfly weed. W. b. Ju. 2[.) leaves ternate, ovate: calyx 5-parted, scarcely longer than the bracts: divisions subulate, diverging: legumes sub-ensiform. Climbing. *S.* P.

mariana, (W. w-b. Ju. 2[.) leaves ternate: calyx much larger than the lance-linear bracts, tubular, 5-cleft: legume torulose: seeds glutinous. Erect or climbing. 2 f. *S.* P. Charleston, S. C.

Southern.

plumiera, P. ( ) leaves ternate, ovate-oblong, acuminate: calyx bell-form, shorter than the ovate bracts: corol large, silky. Climbing.

5—3. VIBUR'NUM. 43. 58.

prunifolium, W. (black haw, sloe. w. J. ♄.) leaves round-obovate and oval, acutely serrate, glabrous: petioles margined. 8—15 i. *S.* N. Y. P. Peekskill. Florida.

pyrifolium, Lk. (w. M. ♄.) glabrous: leaves ovate, acutish, sub-serrate; petioles naked: fruit oblong-ovate: cymes sub-peduncled. Berries dark-colored. 5—10 f. W. T. N. M.

lenta'go, (sheep berry. O. w, J. ♄.) glabrous: leaves broad-ovate, acuminate, hook-serrate: petioles margined, undulate: cymes sessile: branches when full grown often form a fastigiate top. Berries black, oval, and pleasant-tasted: somewhat mucilaginous. 8—15 f. *S.*

nudum, (w. M. ♄.) very glabrous: leaves oval, sub-entire, margin revolute: petioles smooth: cymes peduncled, and without bracts. Berries black. 8—10 f. *S.* P. Y. W. B. C. Canada.

cassinoides, W. (J. ♄.) glabrous: leaves lance-ovate, acute at each end, crenate, sub-revolute at the margin: petioles keeled, without glands. *S.*

dentatum, (arrow-wood. W. w. M. ♄.) smoothish: leaves roundish and ovate, acute, tooth-serrate, furrow-plaited, glabrous both sides: cyme

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Vesicaria. Lat. *vesica*, a bladder, from the inflated silicles.

Vexillaria. Lat. *vexillum*, a banner, alluding to the size of that part of the flower.

Viburnum. Lat. *viburnum*, a name used by Virgil for a pliant, tough plant: Seb. Vaillant derives this word from Lat. *viēre*, to bind.

(1) Alyssum, L. (2) A substitute for a ridiculous name. See Persoon, p. 302, genus No. 1712.

peduncled: fruit sub-globular. Berries blue. 4—12 f. *S.* T. V. N. Y. B. P. C. M.

pubescens, Ph. (1) (W. w. J. ♄.) pubescent: leaves round-ovate, acuminate, tooth-serrate, furrow-plaited, villose beneath: stipules two, subulate: cymes peduncled: fruit oblong. 6 f. *S.* T. Y. O. M

lantanoi'des, Mx. (hobble-bush, tangle-legs. W. w. M. ♄.) leaves broad, round-cordate, abruptly acuminate, unequally serrate: petioles and nerves furnished with powdery rusty down: cymes sessile: fruit ovate. Stem very flexible and crooked. 4—8 f. *S.* F. N. Ithica, N. Y.

acerifolium, (maple guelder-rose, dockmackie. O. w. J. ♄.) leaves heart-ovate or 3-lobed, acuminate, sharp-serrate, pubescent beneath: cymes long-peduncled. Stem very flexible: leaves broad and sub-membranaceous. 4—6 f. *S.* The oldest Dutch settlers in Columbia county, N. Y. inform us, that the Indians in that vicinity considered the external application of the leaves of the dockmackie as a sovereign remedy in every kind of inflammatory tumour; and that they have ever since adopted this practice with success.

oxycoc'cus, Ph (2) (high cranberry. W. r-w. J. ♄.) leaves 3-lobed, 3-nerved: lobes long-acuminate, with a few scattering teeth: petioles glandular, grooved above: cymes rayed. Fruit resembles the low cranberry, red and very acid. 5—8 f. *S.* W. C. T. V. P. O. F. N. D.

ed'ule, Ph. (3) (w. Ju. ♄.) leaves 3-lobed, obtusish at the base, 3-nerved: lobes very short, tooth serrate, with acuminate serratures: petioles glandular: cymes radiate. Small and upright. Resembles the oxycoccus. P. C. Canada.

ellipticum, Hk. ( ) leaves elliptic, obtuse, shortly petioled, parallel veined above, chiefly coarsely serrate; under side, (nerves chiefly) very hirsute: corymbs dense, peduncled: ovaria very hirsute: berries oval-globose, black: A var. has the ovaria glabrous. 2—4 f. R.

Exotic.

opu'lus, (guelder rose, snow-ball. w. J. ♄.) leaves 3-lobed, sharp-toothed: petioles glandular, smooth: flowers in compact cymes, surrounded with radiating florets. Var. *roseum*, has the whole cyme made up of radiating florets.

linus, (laurestine. r-w. ♄.) leaves ovate, entire, with tufts of hair in the axils of the veins beneath: flowers in smooth cymes.

Southern.

obovatum, Wr. (4) (M. ♄.) glabrous: leaves obovate, crenate-dentate or very entire, obtuse cymes sessile: fruit roundish-ovate. Var. *punicifolium*, leaves obovate, entire, or slightly crenate at the apex, obtuse. 4—8 f.

laevigatum, (w. J. ♄.) leaves lanceolate, smooth, remotely serrate, very entire at the base: branchlets 2-edged.

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(1) dentatum pubescens, A. dentatum tomentosum, Mx. tomentosum and villosum, R. rafinesquianum, Rs. (2) opuloides, M. opulus pimina, Mx. americanum, A. (3) opulus edule, Mx. (4) cassinoides, Mx.

nitidum, (♄.) very glabrous: leaves lance-linear, shining on the upper surface, obsoletely serrate or entire: branches 4-angled.

molle, Mx. (W. J. 2ſ.) leaves roundish-cordate, furrow-plaited, toothed, pubescent beneath: petioles sub-glandular: cymes with rays: fruit oblong-ovate. Berries red.

16—10. VI'CIA. 32. 93.

sati'va, (tare. O. b-p. Ju. ☉.) flowers in pairs, sub-sessile: stipules toothed, marked with dots: leafets oblong-ovate, retuse, mucronate: legumes erect, linear-terete, glabrous. Perhaps it may have been introduced. *S.*

americana, (p. M. 2ſ.) sub-pubescent: peduncles many-flowered, shorter than the leaves: stipules semi-sagittate, toothed: leafets numerous, lance-oval, obtuse, mucronate, veined, sub-alternate: stem angled. O. P. Y. R. Niagara.

cracca, (tufted vetch. b. S. 2ſ.) spikes many-flowered, imbricate backwards, larger than the leaves: stipules semi-sagittate, linear-subulate, entire; leafets numerous, lance-oblong, pubescent. *S.* M. P. B. O. N. C. Canada.

caroliniana, Wr. (1) (w. M. 2ſ.) peduncles many-flowered: flowers distant: stipules lance-ovate, entire: leafets 8 to 10, lance-oval, smoothish. The banner of the flower is tipped with black. *S.* P. Y. D.

tridentata, Sz. & Keating, (W. b.) stem sulcate, sub-pubescent: leafets numerous, narrow-oblong, entire, obtuse, short-mucronate, sparingly pilose above, densely pilose beneath: lower stipules wedge-form, broadly 3-cleft, with 3 prominent nerves, pubescent; upper ones lanceolate, long, acuminate, villose: calyx and peduncles pubescent.

gigantea, Hk. (p.) sub-pubescent: stem sulcate: leafets 20—26, oblong, petioled, obtuse, mucronate: stipules large, semi-sagittate, deeply dentate at the base: peduncles much shorter than the leaves, 5—10-flowered: flowers crowded: style scarcely bearded: legumes broad oblong, glabrous, obscurely reticulate. Becomes black on drying. R.

Exotic.

faba, (garden bean, windsor bean, w. & b. J. ☉.) stem many-flowered, erect, strong: legumes ascending, tumid, coriaceous: leafets oval, acute, entire: stipules sagittate, toothed at the base. From Persia.

Southern.

sylvatica, (W. p.) peduncles many-flowered, longer than the leaves: leafets oval: stipules lunulate, setaceous toothed.

acutifolia, (w. Ap. 2ſ.) peduncles few-flowered, longer than the leaves: stipules lanceolate, entire: leafets (6,) linear, acute at each end: stem glabrous.

Vicia. Lat. *vincio*, to bind, because it twines round other plants, or from Celtic *gwig*.

(1) parviflora, Mx.

Vicia, Ervum, Lathyrus.

5—1. Villar'sia. 47. 46.

lacunosa, V. (1) (spur-stem, floating-heart. w. Ju. 2ſ.) leaves heart-reniform, (or shortish heart-form,) sub-peltate, lacunose beneath, floating: petioles bearing the flowers: corol glabrous. *S.* T. B. C. Plainfield, Mass.

Southern.

cordata, E. (Ju. 2ſ.) leaves cordate, very entire: petioles bearing the flowers.

5—1. Vin'ca. 30. 47.

Exotic.

minor, (periwinkle. b. Ap. ♄.) stems procumbent: leaves lance-oval. smooth at the edges: flowers peduncled: teeth of the calyx lanceolate.

major, W. (b. M.—S. ♄.) stem nearly erect: leaves ovate ciliate, flowers stalked: teeth of the calyx setaceous elongated. 6 f.

5—1. Vi'ola. 29. 80.

[*According to Le Conte.]

1. *Stemless, or with a subterranean stem.*

(Leaves more or less reniform, always cordate; younger cucullate: proper color of the corol violet.)

cucullata W. (common blue violet. ♂. p. b. M. 2ſ.) glabrous: leaves cordate, somewhat acuminate, crenate-dentate; autumnal ones largest, very exactly reniform: peduncle somewhat 4 sided, longer than the leaves; divisions of the calyx subulate acuminate, emarginate behind or very entire: petals (as in many American species) oblique, veiny, very entire, white at the base, upper one generally naked, glabrous, lateral ones bearded, and with the upper one, marked with a few blue lines. Var. *papilionacea*, Ph. (3) petioles and peduncles longer: leaves sub-lance-ovate: beards of the lateral petals often yellow. Var. *tetragona*, (L.) peduncles strong, exactly 4-sided: petals azure color, veinless. Var. *villosa*, (4) leaves, petals and peduncles villose. 4—8 i. *S.*

affinis, Le Conte. (5) (W. b-p. M. 2ſ.) glabrous: leaves cordate-ovate,

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Villarsia. In honor of M. Villars, Prof. of Botany at Strasburgh.

Vinca. Originally *pervinca*, in Anglo-Saxon, *pervince*, said to be derived from *vincio*, to bind, from the branches being used to make bands.

Viola. Lat. *viola*, of Gr. *ion*, the name of this beautiful plant.

(1) trachysperma, E. · Menyanthes trachysperma, Mx. (2) obliqua, Sz. & T. (3) species of Ph. (4) asarifolia, Sz. Selkirkii? Goldie, (5) cucullata, Sz. & T. sororia, Ph.

*See *diagnoses violae* in Addenda.

sub-acuminate, crenate-dentate: peduncle somewhat 4-sided, shorter than the leaves: divisions of the calyx emarginate or very entire behind, lance-ovate, sub-obtuse; two upper ones ovate: petals all very entire, veiny, and white at the base; upper one generally villose; lateral ones bearded, and, with the upper one, marked with a few blue lines. 1—6 i. *S.*

palmata, L. (hand leaved violet. W. p-b. 2[.) mostly villose: leaves heart-reniform, palmate-5—7-lobed: lobes polymorphous, often narrow and gashed, middle one always larger; sometimes villose both sides, sometimes only beneath, often glabrous, all of them very often purple beneath; the first spring ones are ovate, entire; petioles sub-emarginate: peduncles somewhat 4-sided, larger than the leaves: divisions of the calyx lance-ovate, ciliate, very entire behind: petals all very entire, veiny, and white at the base, upper ones narrower, smaller, sometimes villose at the base, yet often naked, glabrous; lateral ones densely bearded, and with the upper one, marked with a few blue lines. One variety has white flowers. 3—6 i. *S.* Le Conte. P. Y. C. W. T. V. B. F. O. N.

con'gener, Le Conte. (1) (p. Ap. 2[.) always villose: leaves broad-ovate, cordate, sub-reniform, crenately and coarsely toothed, sometimes sub-lobate and lobed; decurrent into the subulate, very villose, large, strong petioles: peduncles somewhat 4-sided, shorter than the leaves: divisions of the calyx ciliate, ovate, obtuse, very entire behind: petals all very entire, veiny, white at the base; upper one narrower, generally naked, glabrous, yet sometimes the base is villose; lateral ones densely bearded, and with the upper one marked with a few blue lines. A variety has the corol of a very deep violet color. Canada to Florida. *S.* Le Conte.

asarifolia, Ph. (kidney leaf violet. p. M. 2[.) villose: leaves very large, sub-ovate-reniform, crenate, dentate, decurrent into the petioles, always entire: peduncle somewhat 4-sided, short, (rarely an inch and a half): divisions of the calyx ovate, ciliate, entire or emarginate behind: petals all very entire, veiny, white at the base; upper one glabrous, naked; lateral ones densely bearded, and with the upper one, marked with a few blue lines. *S.* P. Canada.

sororia, W. (2) (W. b-p. M. 2[.) leaves thickish, flat, appressed to the earth, orbicular and round-ovate, cordate, crenate, sinus at the base often closed, villose above, with the hairs erect, beneath glabrous, and generally becoming purple, petioles short, strong, with small stipules at the base: peduncle somewhat 4-sided, of the length of the leaves: divisions of the calyx short, subulate, obtuse, glabrous, very entire behind: petals obovate, short, all very entire, veins white at the base, upper and lateral ones bearded, and marked with a few blue lines. Dry woods. *S.* Le Conte. W. T. P.

(Leaves oblong or ovate, never reniform: younger ones cucullate.)

emarginata, Le Conte, (3) (b-p. M. 2[.) glabrous: leaves somewhat succulent, oblong-ovate, or even triangular-ovate, cordate, dentate,

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(1) asarifolia and triloba, Sz. (2) villosa, N. var. cordata, T. cordifolia, Sz. and Dc. (3) dentata, Ph. var. of the sagittata, Sz. N. & Dc.

sometimes ciliate; upper ones unequally and coarsely gash-toothed at the base, and often decurrent into the petiole; midrib prominent; petioles somewhat villose: peduncle 4-sided, longer than the leaves; divisions of the calyx lanceolate, acute, emarginate behind: petals veiny, white at the base, all emarginate, villose; the upper one densely villose; lateral ones bearded, and with the upper one marked with a few blue lines. Dry woods. *S.* Le Conte. P.

sagittata, A. (W. b-p. Ap. 2ℓ.) glabrous: leaves ciliate, oblong, not acute, sagittate-cordate, dentate, gashed at the base, (or furnished with elongated, divaricate teeth): peduncle somewhat 4-sided, longer than the leaves: divisions of the calyx lanceolate, acuminate, emarginate behind: petals all very entire, veiny, white at the base; upper one generally naked, glabrous; lateral ones densely bearded, and, with the upper one, marked with a few blue lines: spur elongated behind. A variety has the leaves more or less villose. Dry. *S.* Le Conte. P. Y. B. C. F. N. Hudson.

ovata, N. (1) (p. Ap. 2ℓ.) villose: leaves ciliate, oblong-ovate, subacute, cordate, often oblique at the base, decurrent into the petiole: upper ones gashed at the base; petioles shortish: divisions of the calyx ciliate, ovate or broad-lanceolate, more or less elongated behind and deeply emarginate or eared: petals all very entire, veiny, white at the base; upper one naked, glabrous; lateral ones very densely bearded, and with the upper one, marked with a few blue lines: spur broad, generally elongated. Dry. 2—4 i. *S.* Le Conte. T. Y. B. P. C. F. N.

(Leaves ovate or lanceolate: corol white, with the lateral petals narrower.)

amoe'na, Le Conte. (2) (twisted violet. W. w. Ap. 2ℓ.) glabrous: leaves ovate, sub-acuminate, crenate, sometimes sub-villose above; petioles long, spotted with red: peduncle somewhat 4-sided, equalling or exceeding the length of the leaves, spotted: divisions of the calyx lanceolate: petals all very entire, green at the base; lateral ones sometimes with the base pubescent, and with the upper one marked with a few blue lines. Moist woods. Flowers odorous. Le Conte. *S.* P.

blanda, W. (smooth violet. W. w. Ap. 2ℓ.) glabrous: leaves round, sometimes sub-ovate, cordate, crenate, appressed to the earth, sometimes with a few scattering hairs above; petioles pubescent: peduncle somewhat 4-sided, longer than the leaves: divisions of the calyx lanceolate, obtuse: petals all very entire, green at the base: upper, and lateral ones rarely sub-villose, marked with a few blue lines. Flowers odorous. Wet. 2—4 i. *S.* Le Conte. C. B. P. O. F. N. Hudson's Bay.

primulifolia, L. (3) (W. w. J. 2ℓ.) stoloniferous, glabrous: leaves oblong, or oblong-ovate, sub-cordate, acutish, crenate, decurrent into the petiole, nerve sometimes sub-villose beneath: peduncle somewhat 4-sided, longer than the leaves: divisions of the calyx lanceolate, obtuse: petals all very entire, green at the base; upper and lateral ones sometimes a little villose, marked with a few blue lines, in the upper

(1) ciliata, M. primulifolia, Ph. (2) obliqua, Ph. (3) variety of the lanceolata, Ph. acuta, Bw.

one often obsolete. Var. *villosa*, leaves very green; and with the petioles densely villose, becoming hoary. Flowers odorous. Wet. *S.* Le Conte. B. C. N. Georgia.

lanceolata, L. (W. w. Ap. 2f.) glabrous: leaves (sometimes with a few scattering hairs) lanceolate, narrow, elongated, gradually attenuated into the petioles at the base, obtusish, crenate: peduncles somewhat 4-sided, reddish, of the length of the leaves: divisions of the calyx lanceolate, acute: petals all very entire, green at the base; lateral ones sometimes a little villose at the base, and with the upper one, marked with a few blue lines. Flowers odorous, small. Wet. 3—8 i. *S.* W. Y. C. P. B. D. F. N. Florida.

(Stemless; but cannot be referred to any of the former sub-divisions.)

rotundifolia, Mx. (O. y. M. 2f.) glabrous: leaves thickish, appressed to the earth, broad-ovate or orbicular, cordate, crenate: nerves pubescent beneath: sinus closed: peduncle somewhat 4-sided, as long as the leaves: divisions of the calyx oblong, obtuse: petals sometimes emarginate; upper one small; lateral ones somewhat bearded, and, with the upper one, marked with a few yellowish-brown lines: spur very short. Woods. 1—3 i.

clandesti'na, Ph. (ground violet. A. J. 2f.) glabrous, decumbent: leaves somewhat succulent, very green, shining, appressed to the earth, broad-ovate and ovate-oblong, obtuse sometimes sub-orbicular, crenate: sinus often closed: peduncles somewhat 4-sided: branches 2—8-flowered: bracts in pairs, small, at the base of each pedicel. Flowers of a chocolate-brown. Concealed under the dead leaves of trees.

pedata, L. (W. M. p-b. 2f.) glabrous; leaves sometimes ciliate, variously divided, very often pedately-9-parted; divisions linear and obtusely lanceolate, generally 3-lobed at the apex, often simply lanceolate, with the apex, 5—7-lobed: peduncles somewhat 4-sided: divisions of the calyx lanceolate, acute-ciliate, emarginate behind: petals all white at the base, veinless, very entire, very glabrous, naked; upper one truncate, and marked with a few very blue lines, sometimes obsolete. Var. *velutina*, has the two lower petals of a very deep violet color, and appears like velvet. Var. *alba*, has white flowers. Dry. 3—4 i. *S.* T. Y. C. P. B. H. N. Florida.

2. *Caulescent.*

canadensis, A. (W. A. r. w. y. M. 2f.) glabrous: stem sub-simple, terete: stipules entire, membranaceous, oblong-sub-ovate or lance-ovate: leaves alternate, ovate, cordate, sub-acuminate, dentate: peduncle somewhat 4-sided: bracts small, subulate: flowers regular; divisions of the calyx subulate, acute, very entire behind: petals white, all very entire, veiny, becoming yellow at the base; lower ones pale-violet: upper one broad, expanding, glabrous, naked; lateral ones bearded, and with the upper one, marked with a few blue lines: stigma short, pubescent, scarcely beaked: spur very short. Flowers odorous: stem often 2 feet long, flowering through the summer. Moist woods. 6 i.—2 f. *S.* T. B. C. O. V.

rostrata, M. (beaked violet. O. b-p. M. 2f.) glabrous: stems many, ascending, terete: leaves orbicular and ovate, cordate, crenate-dentate,

sometimes with a few scattering hairs; younger ones cucullate: petioles much longer than the leaves: stipules linear, acuminate, furnished with elongated linear teeth: peduncles filiform, somewhat 4-sided, slender, axillary, very long: bracts minute, subulate: divisions of the calyx lanceolate, acute, entire behind: petals all very entire, veinless, naked, beardless; upper and lateral ones marked with a few blue lines: spur straight, elongated, linear, compressed, obtuse, double the length of the petals. Root woody, perpendicular and fibrous. Var. *barbata*, lateral petals bearded. Moist woods. 6—10 i. *S.*

muh'lenbergia'na, Gengin. (1) (slender violet. W. b-p. M. 2f.) glabrous: stem terete, weak, sub-prostrate: leaves reniform, roundish, cordate; upper ones ovate, crenate, often purplish beneath; younger ones cucullate: petioles longer than the leaves: stipules large, lanceolate, serrate-ciliate, sub-pinnate: peduncles somewhat 4-sided, axillary, longer than the leaves: bracts minute, subulate: divisions of the calyx linear, acute, sub-ciliate: petals all very entire, veinless: upper one naked, glabrous; lateral ones bearded, and with the upper one, marked with a few blue lines: spur porrected, compressed, very obtuse: stigma ciliate behind; beak ascending. 3—6 i. *S.* T. P. C. O.

striata, A. (2) (striped violet. W. y-w. J. 2f.) glabrous: stem oblique, branching, angular: leaves roundish and ovate, sub-acuminate, crenate-dentate, sometimes sub-pubescent: petioles long; stipules large, oblong-lanceolate, dentate-ciliate: peduncles 4-sided, longer than the leaves: bracts largish, linear: divisions of the calyx lanceolate, acuminate, ciliate, emarginate behind; petals all very entire: upper one marked with a few blue lines, naked, glabrous, rarely a little villose; lateral ones bearded; lower ones sometimes a very little villose: spur sub-porrected: stigma pubescent behind. 6 i. rarely—2 f. Le Conte. W. P. C. K. N. Catskill.

pubescens, A. (3) (yellow violet. O. y. 2f.) villose-pubescent: stem simple, erect, terete, leafless below: leaves broad-ovate, cordate, dentate; petioles short: stipules large, ovate, dentate; peduncles 4-sided, shorter than the leaves: bracts subulate, minute: divisions of the calyx lanceolate: petals all very entire, veinless; upper one naked, glabrous; lateral ones bearded, and with the upper one, marked with a few blue lines; lower ones often becoming reddish outside: spur short, gibbose, acutish: stigma pubescent, scarcely beaked. Varies in pubescence: leaves are even found glabrous: the capsules are also glabrous or woolly. 4—12 i. rarely—4 f. *S.*

hastata, Mx. (halbert violet. y. M. 2f.) glabrous: stem simple, erect, terete: leaves ovate, dilated, acuminate, cordate, dentate; upper ones lance-ovate, hastate and deltoid: petioles short: stipules ovate, dentate: peduncles somewhat 4-sided, shorter than the leaves: bracts very small, subulate: divisions of the calyx lance-linear, sub-dentate: petals all very entire, veinless; upper ones naked, glabrous; lateral ones bearded, and with the upper ones, marked with a few blue lines; lower one often becoming reddish outside: spur short, gibbose, acutish, stigma pubescent, scarcely beaked: capsule glabrous or pubescent

(1) uliginosa, var. asarifola, M. debilis, Sz. Ph. N. &c. canina, Wr. muhlenbergii, T. (2) ochroleuca, Sz. T. &c. repens, Sz. (3) pennsylvanicum, Mx. eriocarpa, Sz.

on all sides. Var. *gibba*, (1) has no deltoid or hastate leaves. Var. *triparitata*, (2) villose; lower leaves cordate and 3-parted; upper ones deltoid, sometimes 3-parted and hastate. Woods. *S.* P. B.

tenella, M. (3) (W. b-w. M. ☺.) generally glabrous: root filiform: stem 3-sided, angled, erect, simple, leafy: leaves dentate: radical ones round or spatulate; upper ones ovate or lanceolate: all sub-spatulate: petioles short: stipules very large, pinnatifid, palmate; intermediate lobe oblong, longer and broader; the rest linear-oblong, all obtuse, ciliate: peduncles 4-sided, much longer than the leaves: divisions of the calyx lance-ovate, acuminate, ciliate, emarginate behind: petals expanded, white, stained with blue, yellow at the base; upper ones naked, glabrous: lateral ones bearded, and with the upper ones, marked with a few blue lines: stigma sub-pubescent, scarcely beaked. This species, and the V. *rostrata*, are the only American violets that have fibrous roots; all the rest have their roots scaly. *S.* Le Conte. P. Y. K.

selkirkii, Ph. (A.) leaves cordate, crenate-serrate, a little pilose: petals beardless: spur long, thick, very obtuse. Montreal.

tri'color, (4) (garden violet, heart's ease, pansy. W. p. y. b-p. M. 2[.) stem angular, diffuse, divided: leaves oblong, deeply crenate: stipules lyrate-pinnatifid. N.

deb'ilis, Mx. (5) (W. A. March. Ap. w. 2[.) stem decumbent, much branched: leaves broad-ovate and cordate: stipules lacerate, ciliate: flower large, white. Not well defined. *S.* F.

Exotic.

odorata, (sweet violet. b. M. 2[.) stemless: scions creeping: leaves cordate, crenate, smoothish: calyx obtuse: two lateral petals with a bearded or hairy line.

Southern.

heterophylla, M. (6) (W. p. March. 2[.) stemless, glabrous: leaves cordate, long-ovate, sub-acute, crenate-dentate, entire and sub-palmate-5-lobed; intermediate lobe much larger and broader: peduncles somewhat 4-sided, longer than the leaves: divisions of the calyx subulate, emarginate behind: petals all very entire, veiny, white at the base: upper ones often villose at the base; lateral ones densely bearded, and with the upper ones, marked with a few blue lines. A variety has white flowers. 8—12 i. Le Conte.

sep'temlo'ba, Le Conte. (7) (p. March. 2[.) stemless, very glabrous, shining: leaves sub-succulent, ovate, cordate, dentate; lower ones entire, the rest pedate, 7-lobed; intermediate lobe larger: peduncles somewhat 4-sided, longer than the leaves: divisions of the calyx lanceolate, very entire behind: corol large: petals all very entire, veiny, white at the base: upper ones large, villose at the base; lateral ones densely bearded, and with the upper ones, marked with a few blue lines. Flowers often two inches in diameter. A variety has white flowers. Often 8 i. Le Conte.

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(1) striata, Sz. gibba, R. (2) tripartita, E. (3) bicolor, Ph. N. arvensis, E. (4) Melanium, Dc. (5) canina, Wr.? striata, E.? (6) palmata, var. heterophylla, E. (7) palmata, var. vulgaris, E.?

al'leghanen'sis, Rs. (A. 2f.) hirsute: leaves ovate and oblong-cordate, sub-entire: petioles membranaceous: lateral petals bearded: spur very saccate.

villosa, Wr. (p-b. March. 2f.) stemless, pubescent (not villose:) leaves flat, appressed to the earth, round-ovate and ovate, obtuse, cordate, dentate-crenate, livid-green; veins darker, sometimes purplish, often purplish beneath; sinus of the roundish ones nearly closed: petioles short: peduncle 4-sided, longer than the leaves: petals all very entire, generally villose; (lower one sometimes glabrous;) lateral ones bearded, and with the upper ones, marked with a few blue lines. After flowering the leaves become glabrous. Florida.

nuttalli, Ph. (W. y. M. 2f.) glabrous: stem simple, erect, terete, leafy: leaves lance-ovate obscurely dentate or very entire, attenuated at the base: stipules long, lance-linear, entire: peduncles somewhat 4-sided, shorter than the leaves: bracts minute: divisions of the calyx lance-linear, acuminate, very entire behind: petals all very entire, veinless; lateral ones bearded, and with the upper ones, marked with a few blue lines: spur short: stigma pubescent, scarcely beaked. 4—6 i.

radicans, Dc. (2f.) rootlets horizontal, fibrous: stigma short-beaked, margined: leaves lance-ovate, abruptly attenuate at the base, or subcordate, serrate: stipules linear, setaceous-subulate, setose-serrate: divisions of the calyx linear, acute: scarcely spurred. Flowers minute; middle petals obovate.

Viola, Ionidium.

10—1. Virgil'la. 32. 93.

Southern.

lutea, Mx. (A. y. J. ♄.) leaves pinnate; leafets alternate, ovate, short acuminate, glabrous: racemes elongated, pendulous: glumes petioled, flat. The bark affords a yellow dye.

20—4. Vis'cum. 43. 58.

verticillatum, (1) (misletoe. W. g-w. J. ♄.) branches opposite and whorled: leaves wedge-obovate, 3-nerved: spikes axillary, a little shorter than the leaves. Berries yellowish-white. On the branches of old trees. This, Smith says, is the golden bough of Virgil, and the sacred plant of the Druids. 1—2 f. *S.* P.

Southern.

rubrum, W. (♄.) leaves lance-obovate, obtuse: spikes axillary, whorled.

purpureum, W. (♄.) leaves obovate, obtuse, obsoletely 3-nerved: spikes axillary: flowers opposite.

Virgilia. In honor of the great Latin poet Virgil, who discoursed on plants in the eclogues.

Viscum. Lat. *viscum*, from the Gr. *ixos*, Ael. *biscos*, birdlime, the name for this plant.

(1) flavescens, W. album, Wr.

5—1. Vi'tis. 46. 72.

Remark. All the North American species of grape are polygamous or diœcious.

labrusca, (1) (plum grape. w-g. J. ♄.) leaves broad-cordate, lobe angled, white downy beneath: fertile racemes small: berries (blue, flesh-color and green) large. Var. *labruscoides*, (fox grape,) has smaller fruit, approaching a tart taste. *S.* T. Y. C. P. B. F. N. Catskill. Canada.

vulpina, (2) (frost grape. O. w-g. J. ♄.) leaves cordate, acuminate, gash-toothed, glabrous both sides; nerves and veins pubescent: racemes lax, many-flowered: berries small. Leaves very variable; but the uppermost mature leaves will agree with the description. *S.* Canada.

æstivalis, Mx. (3) (summer grape. w-g. J. ♄.) leaves broad-cordate, 3 to 5-lobed; in the young state rust-downy beneath; fertile racemes oblong: berry small. Var. *sinuata*, leaves sinuate-palmate, coarsely toothed. *S.* N. P. F. Y. C. B.

rip'aria, Mx. (4) (odoriferous grape. w-g. M. ♄.) leaves unequally gash-toothed, shortly 3-cleft, pubescent on the petioles, nerves and margins. *S.* P. M. O. Y. D.

Exotic.

vinifera, (wine grape. J. ♄.) leaves sinuate-lobed, naked or downy.

Southern.

rotundifolia, Mx. (bullet grape. M. ♄.) leaves lucid on both sides, cordate, unequally toothed: flowers of the racemes in many small heads: berries large.

palmata, Vahl. (♄.) leaves cordate, palmate, glabrous; divisions lanceolate, gashed: umbels racemed.

Vitis, Ampelopsis.

21—1. Vitta'ria. 55. 5.

Southern.

lineata, (5) (♃.) frond linear, very long, pendulous: fruit dots solitary within the margin. The leaves are grass-like. Ph.

W.

14—2. Ware'a. 39. 63.

Southern.

cuneifolia, described under Cleome.

Vitis. The Lat. name; from the Celtic *gwyd*, (pronounced *woyd.*)
Vittaria. Lat. *vitta*, a fillet, alluding to the shape of the frond.
Warea. In honor of N. A. Ware, Esq.
(1) taurina, Wr. (2) cordifolia, Mx. (3) intermedia, M. labrusca, Wr. (4) odoratissima, Donn. (5) angustifrons, Mx. Pteris, L.

amplexifolia, N. (p. ☉.) leaves oblong-ovate, half-clasping: silique two-edged, pendulous. 1 f.

6—6. WENDLAN'DIA. 11. 77.

Southern.

populifolia, (w. J. ♄.) stem climbing; younger branches pubescent, striate: leaves alternate, petioled, cordate, ovate, mucronate, entire, veined, glabrous above, pubescent beneath. This plant has hitherto escaped the researches of all our botanists. E.

3—2. WINDSO'RIA. 4. 10.

sesleriοides, Mx. (1) (red-top. W. Au. 2ſ.) panicle spreading and flexuous: spikelets all peduncled, about 6-flowered, lanceolate: lower valve of the corol ovate, 5-toothed. 3—5 f. *S.* P. C. O. M.

Southern.

ambig'ua, E. (2) (S. 2ſ.) panicle spiked, spreading: spikes ovate, thick, sessile, 5—6-flowered: outer valve of the corol mucronate. 2 f.

Windsoria, POA.

Wisturia, PHASEOLUS.

21—1. WOOD'SIA. Br. 55. 5.

hyperbo'rea, (3) (flower-cup fern. Ju. 2ſ.) frond pinnate: leafets 3-parted, or gash-pinnatifid, wedge-form, obtuse, toothed, rough-haired beneath: fruit-dots solitary, at length confluent. Small, in tufts. P. Canada. T.

ilvensis, (4) (Ju. 2ſ.) frond bipinnatifid: divisions oblong, obtuse; lower ones repand: upper ones entire, rough-haired beneath: fruit-dots sub-marginal, at length confluent: stipe villose above. Small. B. T. Canada. Fairhaven, Vt.

21—1. WOODWARD'IA. 55. 5.

angustifolia, S. (5) (kidney-fern. Au. 2ſ.) barren frond pinnatifid: divisions lanceolate, repand, slenderly serrulate: fruit bearing frond pinnate: leafets entire, acute, linear. About a foot high. *S.* B. T.

virginica, (6) (Ju. 2ſ.) frond very glabrous, pinnate: leafets sessile, lan-

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Wendlandia. In honor of M. Wendland, royal gardener at Herrenhausen.

Windsoria. In honor of John Windsor, an English botanist.

Woodsia. In honor of Joseph Woods, an excellent English botanist.

Woodwardia. In honor of Thos. J. Woodward, an excellent English botanist.

(1) poaeformis, N. Triéuspis, Ph. Poa, Mx. quinquefida, Ph. flava, L. sub-verticillata, P. (2) Poa, E. (3) Polypodium, W. arvanicum, S. Acrostichum, Bolton. (4) Polypodium, W. Acrostichum, L. (5) onocleoides, W. Onoclea noduloso, Mx. Acrostichum areolatum, L. (6) bannisteriana, Mx. Blechnum, L.

ceolate, pinnatifid: divisions oblong, obtuse, crenulate, fertile ones elongated: stipe glabrous, terete. About a foot high. *S.* Y. B. C. O. V.

Southern.

thelipteroides, Ph. (Ju. 2[.) frond pinnate; wing leafets sessile, villose at the base, lance-linear, pinnatifid; sterile ones oblong, obtusish; fertile ones short-triangular, acute; all very entire: stipe pubescent, angled. 6 i.

17—3. WYE'THIA. 49. 55.

helianthoides, N. (y. 2[.) root large and somewhat tap-shaped: stem and calyx shortly pilose: stem terminated by one large helianthoid flower: leaves alternate, rather narrow-lanceolate, entire, petioled, acute, somewhat pubescent: calyx divisions numerous, lance-linear, acute and conspicuously ciliate: rays large. R.

X.

19—5. XANTHIUM. 54. 55.

strumarium, (1) (clott-burr, sea burdock. W. Au. ☉.) stem unarmed, branching: leaves cordate, lobed, serrate, scabrous, three-nerved at the base: fruit oval, pubescent, with stiff hooked bristles. Has a little the habit of a burdock. 2—3 f. *S.* T. Y. C. N. V. B. P. O. F.

orienta'le, (2) (☉.) stem unarmed: leaves wedge-ovate, sub-3-lobed: fruit in strobiles. Y.

spinosum, (prickly clott-burr. Ju. ☉.) having spines in threes: leaves 3-lobed. Lower leaves sinuate-lobed. 1—3 f. *S.* Newburgh.

20—5. XANTHOX'YLUM. 46. 94.

fraxineum, W. (3) (prickly ash, tooth-ache bush. O. g-w. M. ♄.) prickly: leaves pinnate; leafets lance-oval, sub-entire, sessile; equal at the base: umbels axillary. 8—12 f. *S.*

tricarpum, Mx. (L. J. ♄.) leaves pinnate, very glabrous: leafets petioled, lance-falcate, crenate-serrate: petioles unarmed: flowers with corols: capsules about in threes. Both species are aromatic and pungent. 12—20 f. *S.* Canada. Carolina.

5—13. XANTHORHI'ZA. 26. 61.

apiifolia, (parsley yellow root, Ap. ♄.) stem simple: leaves 3-ternate:

Wyethia. In honor of Mr. Wyeth, a traveller across the Rocky Mts. and along Columbia River, &c.

Xanthium. Gr. *xanthos*, yellow, because it was used to die the hair yellow.

Xanthoxylum. Gr. *xanthos*, yellow, and *xulon*, wood, so named from its color.

Xanthorhiza. Gr. *xanthos*, yellow, *riza*, root, in allusion to the color.

(1) americanum, Wr. (2) maculatum, R. (3) ramiflorum, Mx. Clava berculis, L.

petioles dilated and clasping at the base: racemes below the leaves, compound. 1—3 f. *S. P.*

6—3. XEROPHYL'LUM. 10. 13.

asphodeloi'des (1) (w. J. 2ſ.) filaments dilated towards the base and equalling the corol: racemes oblong, crowded: bracts setaceous: scape leafy: leaves setaceous-subulate. 3—5 f. *S. Y.*

Southern.

tenax, Ph. (2) (W. w. J. 2ſ.) scape leafy: raceme showy, lax: bracts membranaceous: petals oval: filaments filiform, exceeding the corol: leaves subulate-setaceous, very long.

gramineum, (2) (A. Au. 2ſ.) scape leafy, panicled: racemes divaricate: bractlets ovate, longer than the pedicels: petals oblong, acuminate, thrice as long as the stamens: leaves linear, channelled, glaucous beneath. 2 f.

5—1. XYLOS'TEUM. 48. 58.

ciliatum, Ph. (3) (fly-honey-suckle, twin-berry. w-y. M. ♄.) berries distinct: leaves ovate, and sub-cordate, margin ciliate, in the young state villous beneath: corol a little gibbous or calcarate at the base: tube ventricose above: divisions short, acute: style exsert. 3—4 f. T. C. O. N. V.

solo'nis, Ea. (4) (swamp twin-berry. y. M. ♄.) berries united in one, biumbilicate (never distinct:) two flowers situated on one germ: leaves oblong-ovate, villose. Berries dark-purple 2 f.* W. O. New-Hampshire. Pittsfield, Mass.

villosum, Mx. (♄.) branches villose: leaves oblong-oval, obtuse, subtomentose; very villose: peduncles short: (berries distinct, Ph. sed

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Xerophyllum. Gr. *xeros*, dry, and *phullon*, leaf, its leaves appear as if withered.

Xylosteum. Gr. *xulon*, wood, and *ŏsteon*, bone, alluding to the hardness of the wood.

(1) setifolium, Mx. Helonias, L. (2) Helonias, Ph. (3) tartaricum, Mx. Lonicera ciliata, M. (4) Hooker calls this the coerulea of Europe. Sed quere? Hk. p. 283.

*This plant was discovered in New-Hampshire, by Dr. Solon Smith, of New-Haven, Ct. in the year 1815. I published it in 1817. Professor Dewey found it near Williams College the same year. I found it in Pittsfield, Mass. three years afterwards. It has since been published under the name *villosum*, by several botanists; but I know not on what authority. No one pretends to have seen Michaux's plant; and his description of the villosum, if intended for this plant, is defective without a parallel in his work. As well might a botanist claim all future discoveries in the genus Acer, if he had once said that the maple tree had a woody stem. It may have been seen by Michaux; but surely it will be in season to deny Dr. Smith's discovery, and my name, after we receive some evidence of it.

quere.) Berries blue. Perhaps a variety of the foreign vulgare. Ph. W. N. White Mts.

oblongifolium, Goldie. (1) (y) stem erect: leaves oblong or oval, beneath chiefly velvety-pubescent: peduncles elongated, erect, also fructiferous: bracts obsolete: tube of the hirsute corol gibbous at the base and upwards; limb unequal, deeply bilabiate; upper lip 4-toothed; lower lip sub-entire: berries united in one, globose, biumbilicate. Montreal. N. York.

involucrata, Banks. ( ) branches acutely 4-angled: leaves ovate or oval, petioled, sub-membranaceous, appressed pilose beneath: peduncles axillary 2—3-flowered: bracts 4, 2 exterior ones ovate, interior ones broadly obcordate, at length enlarged, pubescent-glandulous: corol pubescent without, gibbous at the base: style exsert. A. R.

3—1. XY'RIS. 6. 13.

caroliniana, W. (2) (yellow-eyed grass, yellow-flowering-rush. W. y. Au. 2ſ.) leaves linear, grass-like: stem or scape 2-edged: head-ovate-acute: scales obtuse. 9—18 i. *S.* T. Y. B. N. C. P.

brevifolia, Mx. (y. Au. 2ſ.) leaves sword-subulate, short: calyx longer than the bracts, somewhat gash-toothed. 12 i. *S.* T. Y. P.

Southern.

fimbriata, E. (J. 2ſ.) heads lax-imbricate: calyx much longer than the bracts, fimbriate: leaves long, ensiform. 2 f.

juncea, Bald. (M. 2ſ.) leaves terete, hollow, acute: scape terete, sheathed at the base: bracts roundish: head oval. 6—12 i.

indica, W.? (y. J. 2ſ.) leaves very long, grass like, tortuous: scape tortuous: head globose: scales roundish, obtuse.

Y.

6—1. YUC'CA. 10. 14.

Southern.

filamentosa, (silk-grass, bear-grass. w. Au. 2ſ) stemless: leaves broad-lanceolate, entire, filamentose on the margin: stigmas recurved-spreading. 2—5 f.

angustifolia, Ph. (W. w. Ju. 2ſ.) stemless: leaves long linear, glaucous, mucronate, somewhat filamentose on the margin: capsules large, oblong-obovate.

recurvifolia, Sy. (p-w. Ju. ♄.) caulescent, leaves lance-linear, recurve-deflected, rarely filamentose on the margin: inner petals broadest. 3 f.

Xyris. Gr. *xuros*, pointed or sharp, from the termination of its leaves.
Yucca. Yuca or yucca, the original Indian name.

(1) Hooker says this is the plant from the western part of N. Y.; not my X solonis. (2) jupicai, Mx. flexuosa, M.

gloriosa, (petre. L. w. Au. ♄.) caulescent, branching: leaves broad-lanceolate, plaited, very entire: petals lanceolate. 2—4 f.
alnifolia, (1) (L. w. Au. ♄.) caulescent, branching: leaves lance-linear, with callous crenatures, rigid. 10—12 f.

Z.

20—12. ZA'MIA. 1. 100.

Southern.

integrifolia, W. (2) (♄.) frond pinnate; leafets lanceolate, roundish-obtuse, attenuate at the base, serrulate on the outside towards the apex: stipe glabrous, somewhat 4-cornered.

19—1. ZANICHEL'LIA. 2. 7.

intermedia, T. (false pond-weed.) anther 2-celled: stigmas dentate-crenate: seed smooth: entire on the back. In salt marshes.
palustris, (Ju. ☺.) anthers 1-celled: stigmas entire: seed toothed on the back. C.

Zanthorhiza, XANTHORHIZA.

13—2. ZAPA'NIA. 40. 40.

nodiflora, Mx. (3) (fog-fruit. W. w. Ju. 2ℓ.) leaves wedge-obovate, serrate above: spikes head-conic, solitary, long-peduncled: stem creeping. *S.* P. H. K. D. Harper's Ferry. New Orleans.
lanceolata, (4) (W. w. Ju. 2ℓ.) leaves lance-linear, sharply serrate: spikes head-conic, solitary, long peduncled: stem creeping. *S.* P.
cuneifolia, T. & J. (W.) stem herbaceous, procumbent? somewhat scabrous: leaves narrow-wedge-form, thick, nearly glabrous, sharply and coarsely toothed towards the apex: bracts wedge-obovate, dilated at the apex, mucronate: little heads solitary, globe-ovate, long-peduncled.

19—3. ZE'A. 4. 10.

Southern.

mays, (indian corn. y-g. Ju. ☺.) leaves lance-linear, entire, keeled. Var. *precox*, (dwarf corn) stem low: seeds mostly 8-rowed.

5—3. ZIGADE'NUS. 10. 13.

glaberrimus, Mx. (zigadene. W. w. J. 2ℓ.) scape leafy: bracts ovate, acu-

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Zamia. Gr. *zemia*, damage, or loss, referring to the staminate aments, not producing any seed.
Zanichellia. In honor of J. J. Zanichelli, an eminent botanist at Venice.
Zapania. In honor of Paul Anthony Zappa, an Italian botanist.
Zea. Gr. *zea*, a kind of grain, said to be from *zaō*, to live.
Zigadenus. Gr. *zugos*, a yoke, and *adēn*, a gland, alluding to the two glandular depressions in each petal.
(1) draconis, E. (2) pumila, L. (3) Lippia, Mx. Verbena, L. (4) Lippia, M.

minate: petals acuminate: leaves long, recurved, channelled. P. Near Rochester, N. Y. 2—4 f. *S.*

Southern.

elegans, Ph. (W. w. J. 2[.) scape nearly naked: bracts linear: petals ovate, acute.

Zigadenus, MELANTHIUM, HELONIAS.

17—2. ZIN'NIA. 49. 55.

Exotic.

violacea, (blood marygold. r. Ju.) leaves ovate-acute, sessile sub-crenate: apex of the chaff or scales fimbriate-serrate.

elegans, W. (p. J. ☺.) heads stalked: leaves opposite, cordate, ovate, sessile, clasping: stem hairy: paleae serrate. 2 f. Mexico.

Southern.

multiflora, (W. r. S. ☺.) leaves opposite, lance-ovate, sub-petioled, flowers peduncled. Perhaps not a native of North America.

19—6. ZIZA'NIA. 4. 10.

aquatica, Ph. (1) (water oats, wild rice. W. Au. ☺.) panicle pyramidform, staminate flowers below, spreading; pistillate flowers above, spiked: pedicels clavate: flowers long-awned: seed long, cylindric, becoming black. Very abundant in the great western lakes. Schoolcraft. 4—8 f. *S.* P. Y. T. B. N. C. Lake Erie, and Ontario. Oswego River.

miliacea, Mx. (W. Au.) panicle effuse, pyramidal: glumes short-awned: staminate and pistillate flowers intermixed: seed ovate, smooth: leaves glaucous: style one. 6 f. *S.* P. C.

Zizania, HYDROCHLOA.

5—2. ZI'ZIA. Dc. (2) 45. 60.

aurea, (2) meadow parsnip, alexanders. O. y. J. 2[.) leaves biternate; leafets lance-oval: umbels with short peduncles. Some of the leaves are often quinate. 1—2 f. *S.*

integerrima, (2) (O. y. J. 2[.) very glabrous: leaves sub-glaucous, lower ones thrice-ternate, upper ones twice: leafets oblique oval, entire: umbels with elongated peduncles. 12—18 i. *S.*

cordata, (2) (alexanders. O. y. J. 2[.) radical leaves round-cordate, crenate; cauline ones petioled, ternate; upper ones 3-parted: umbels with short peduncles.

Zinnia. In honor of M. Zinn, professor of botany at Gottingen.

Zizania. Gr. *zizanion*, darnel, which has been badly applied to the present genus.

Zizia. Gr. *zizanion*, (a troublesome weed.)

(1) clavulosa, Mx. (2) Smyrnium, Sison.

3—1. Zi'zyphus. 43. 95.

Southern.

volubilis, (1) (supple jack. g-y. J. ♄.) unarmed: leaves ovate, ribbed, very entire, sub-undulate: umbels axillary, peduncled: stem twining. Charleston, S. C.

16—10. Zor'nia. 32. 93.

Southern.

tetraphylla, Mx. (y. Ju. 2ſ.) leaves digitate; leafets 4, lanceolate, glabrous: spikes axillary, peduncled: flowers alternate, 2-bracted: bracts roundish. 2 f.

19—1. Zoste'ra. 2. 7.

marina, (grass-wrack, sea-eel grass. L. Au. 2ſ.) leaves entire, somewhat 8-nerved: stem teretish. Leaves long: flowers minute. In bays and salt-marshes. Y. C. B.

Zizyphus. Lat. *zizipha*, a kind of plum, said to be from the Arabian zizouf.

Zornia. In honor of John Zorn, a German apothecary and botanist.

Zostera. Gr. *zoster*, a girdle, alluding to the ribbon-like appearance of its long linear foliage.

(1) Rhamnus, L.

Remarks.

The species of the lower orders of CRYPTOGAMIA, (to wit, Musci, Hepaticae, Algae, Lichenes and Fungi) are described by themselves, in the following pages; for reasons given at page 121.

SPECIES OF CRYPTOGAMIA OF THE FIVE LOWER ORDERS.

See page 121 of the Genera.

A.

ACI'NULA. Lat. *acinus*, (little berry.) Ergot. 1.

clavus, horn-form, cylindrical, powdery; purple-black outside, white inside. In glumes of rye, and of some other grasses.

ACREMO'NIUM. Gr. *akremon*, (branch) capsules on branches. 1.

fuscum, filaments spreading, branched, olive-brown. On dead sticks.

ACROSPERM'UM. Gr. *akros*, (summit) *sperma*, (seed.) 1.

cornutum, horn-form, smooth, when dry furrowed, rufous becoming paler at the end. On putrid agarics. 1—4 i.

ACTYNOTHY'RIUM. Gr. *aktin*, (a ray) *thuroo*, (to enclose.) 1.

graminis, scattered or gregarious, half a line broad, dark, a little ribbed and elevated in the centre.

AECID'IUM. The old name. Red germ, &c. 1.

1. *Cespitose; receptacles aggregated in a tuft making a crust-like spot on leaves.*

cornutum, becoming yellow; receptacles very long, curved, olive-grey. Appears like saffron colored spots, on the upper sides of leaves of mountain ash, &c. 1—6 i.

cancellatum, tuberculate, chesnut-brown: receptacles at length splitting into divisions cohering at the apex. Grows on the under side of withering or dying pear leaves.

rhamni, cespitose, rose-colored: receptacles elongated, somewhat diverging, at length becoming pale. On the leaves of the rhamnus.

tussilaginis, spots purplish yellow, tufts flat; receptacles immersed. Occurs on the leaves of the colt's foot, (Tussilago farfara) is hardly prominent above the surface of the leaf.

2. *Simple; receptacles scattered; crust, which is distinct, is never conjoined.*

euphorbiae, simple, crowded: receptacles cylindric, pale; mouth reflexed, yellow with dust. On the leaves of Euphorbia maculata.

anemones, simple, scattered: receptacles cylindric, a little prominent, pale, mostly toothed: wholly filled with white dust. On the leaves of Anemone nemorosa in the spring.

punctatum, simple, scattered: receptacle sub-immersed: mouth somewhat converging; dust compact, becoming sooty-yellow. Found sometimes on leaves of Anemone.

AGARICUS. From Agaria, a city in Sarmatia. Mushroom. 1.

1. *Lamellae juiceless or becoming dry; not smoke-dusty, nor sooty; stipe annulated.*

procerus, large: pileus fleshy, bossed, scaly, reddish-ash-colored: lamellae very remote, white: stipe bulbous, very long: ring moveable. Var. *squamosus*, pileus convex, and scaly above, lamellae pressed together outwardly from the stipe, and becoming yellow. Var. *excoriatus*, smaller, whitish, scales obsolete. Woods and fields. 13 i.

squarrosus, cespitose: pileus fleshy; pileus and stipe scaly and scurfy, rusty yellow; lamellae crowded, pale-olive. Often on roots and trunks of trees in autumn. 2 i.

polymycus, cespitose, heaped together: pileus bossed, hairy-scaled, sooty-yellow: lamellae sub-decurrent, white becoming pale: stipe annulated, conic, olive-ash colored, solid, elastic. Woods, on trunks or the earth, in autumn.

candidus, cespitose: pileus somewhat fleshy, glabrous, cinnamon color: lamellae sub-decurrent, pale rust colored, stipe scaly, cylindric, rather slender. On trunks in autumn.

2. *Pileus mostly fleshy: lamellae emarginate, mostly one colored and at length cinnamon: stipes mostly bulbous, having a veil-like volva dissolved into spider-web-like filaments.*

decolorans, pileus viscid, yellow: lamellae at first bluish purple, at length cinnamon: stipe glabrous sub-tuberous, white: veil-like volva rust-color.

flavidus, cespitose: pileus somewhat fleshy, yellow; the central part more obscure: lamellae distinct, one-colored, becoming yellow; stipe soft, thickening downward and becoming sooty yellow. On trunks.

decipiens, growing in groups: pileus fleshy, acutely bossed and membranaceous near the centre, depressed: lamellae broadish, obscurely cinnamon-colored: stipe long, from white becoming reddish.

3. *Pileus fleshy, entire, convex: lamellae one-colored, becoming dry: stipe central, destitute of a ring or curtain-like volva.*

(Color of the pileus brownish or brownish-yellow.)

pratensis, tawny-red, hardish: pileus campanulate, either obtusely bossed or flattish, glabrous: lamellae thick, distant, decurrent: stipe short, somewhat slender, tapering downwards. Among grass.

reflexus, growing in groups: rusty yellow: pileus somewhat fleshy, acutely bossed, scaly, reddish-yellow: lamellae distinct, light-cinnamon: stipe long, slender, fibrous-scaly, scales reflexed. Woods.

radicatus, pileus fleshy, bossed, viscous, rugose, sooty-purple or tawny: lamellae sub-decurrent, white: stipe very long, having a long fusiform root. Woods. 1—2 i.

velutipes, cespitose: pileus somewhat fleshy, repand, glabrous, brown: lamellae ventricose, becoming yellow: stipe tomentose becoming dark liver-brown. Autumn.

(Color of the pileus shining, red or light yellowish-green.)

coccineus, growing in groups: scarlet all over: pileus sub-membranaceous, convex, subviscous: lamellae distinct connected by teeth; stipe hollow, sub-compressed. Autumn in grass. 2 i.

conicus, pileus conic, acute, sub-viscous, light greenish-yellow: lamellae crowded, ascending, becoming yellow: stipe long, yellow. Var. *tristis*, solitary, pileus acutely campanulate, from yellowish-green becoming dark: lamellae free. 4 i.

russula, large: pileus fleshy, sub-convex, with rose-red, scales: stipe rose-red, solid, short: lamellae unequal, white. 2 i.

(Color of the pileus white.)

discoideus, sub-cespitose: pileus fleshy, viscid, flattish, white; middle part yellow or somewhat rust-color: lamellae sub-decurrent; lamellae and stipe middling white.

pulvinatus, pileus fleshy or rather corky, cushion-like, sub-repand, glabrous, white: middle part pale flesh-colored: lamellae crowded, decurrent, white: stipe very short, solid, hard. Woods.

4. *Small, tender; pileus mostly membranaceous, striate, pellucid, convex, permanent; lamellae becoming dry, one-colored: stipe mostly hollow, elongated, naked.*

galericulatus, cespitose, inodorous: pileus membranaceous, bossed, tawney-lead-color: lamellae distinct, white: stipe smooth, rooting, strigose-haired at the base. On trunks in autumn.

hypnorum, small, very tender, rusty-yellow all over: pileus bell-form, furrowed: lamellae distant, broadish: stipe middling.

clavus, growing in groups, extremely minute: pileus somewhat fleshy, papillose, orange or red: lamellae broadish: stipe and lamellae white.

lacteus, white all over: pileus campanulate, obtuse, striate: lamellae distinct, ascending: stipe rather long, hirsute at the base.

corticola, minute, scattered, tawny: pileus hemispherical, sub-plicate: lamellae uncinate, linked together, white: stipe shortish, incurved. In crevices of bark, of wood, &c.

5. *Pileus membranaceous, fugaceous, or somewhat fleshy, at length torn; lamellae at length becoming a black juice, or dusty smut; stipe white, naked or annulated.*

(Membranaceous, almost wholly becoming a black juice: lamellae very thin.)

comatus, growing in groups: pileus conic, scaly, white; scales yellow: lamellae crowded or heaped together, at first white-purple; stipes very long, ring moveable.

cinereus, pileus conic, furrowed, sub-tomentose, cinerous: smooth and bluish-purple at the apex, the margin at length torn and inflexed: lamellae linear, punctate, somwhat zigzag: stipe long, scaly. Gardens and woods.

disseminatus, crowded or heaped together, small, fugaceous: pileus somewhat oval, striate plicate: at first somewhat reddish-yellow, then grey: lamellae distinct, in some measure linked together, light sooty-yellow: stipe mostly incurved.

domesticus, pileus campanulate, obtuse, undulate, sulcate, sooty; scales bran-like: lamellae crowded, linear; at first bluish-red, then brown becoming black. On damp walls, &c. about houses.

sarcoticus, pileus convex, cinereous: plicate with distinct, bifid, dense

folds; vertex entire: stipe subulate: lamellae more rare or distant, entire and halved, alternate. It diffusues a very narcotic odour.

(Somewhat fleshy: lamellae at length becoming black smut or soot-like, in nebulous or sooty spots.)

semiglobatus, pileus fleshy, hemispherical, sub-viscous, becoming yellow: lamellae very broad, horizontal, becoming dark-cloudy: stipe long, annulated.

papilionaceus, pileus somewhat fleshy, campanulate, sooty (becoming almost black:) lamellae all attached, dark-cinerous and various, white at the margin: stipe furrowed at the apex, dark-pulverulent.

6. *Pileus fleshy or sub-membranaceous, smooth, permanent: lamellae somewhat nebulous, at length dark-stained or one colored sub-ramose; finally becoming more obscure and dark with seminal dust; stipe annulated or naked.*

(Pileus fleshy; stipe annulated.)

edulis, in groups, large; pileus white, smooth or obsoletely scaly: lamellae red: stipe long, bulbous; the ring-volva manifest. This is an eatable mushroom; but not the most common.

campestris, pileus fleshy, flattish, having dark-yellow scales: lamellae becoming yellowish-red: stipe short: the ring-volva rather incomplete. This is the common eatable mushroom.

precox, somewhat in groups: pileus fleshy, hemispheric, tan yellow, at first white: lamellae flat, thin, watery-soot-yellow; stipe solid, somewhat tenaceous: ring-volva fugaceous.

lateritius, cespitose, large: pileus fleshy, sub-viscous, brick-color; margin yellow: lamellae distinct, somewhat nebulose, becoming greenish-cinereous: stipe long, sub-solid; ring fugaceous becoming black.

fascicularis, small, cespitose: pileus somewhat fleshy, bossed, reddish-yellow: lamellae nebulose becoming green: stipe hollow, slender; the curtain-like volva becoming black.

(Pileus mostly fragile, membranaceous, subaquose: stipe naked.)

denticulatus, slender: pileus hemispheric, livid purple: lamellae toothed at the margin: stipe hollow, sooty-yellow.

gracilis, wholly fragile: pileus membranaceous, campanulate, acute, very soft, lamellae linear: becoming dark-cinerious: stipe very long, glabrous. Pileus varies to flesh-colour, dark reddish-yellow, white, &c.

7. *Pileus fleshy, mostly depressed: lamellae becoming milky.*

piperatus, pileus funnel-form, expanded at the margin, glabrous, white: lamellae crowded, forked, white becoming pale.

subdulcis, pileus funnel-form, becoming reddish-yellow: lamellae pale flesh-color: juice sweetish.

8. *Pileus fleshy, mostly depressed: lamellae of equal length, white, becoming dry: stipe naked, white.*

rosaceus, pileus convex, flat, smoothish, rose-colored or pale red: lamellae and stipe white.

9. *Pileus entire, membranaceous, mostly striate, funnel-form or umbilicate: lamellae of equal length, not becoming milky, mostly decurrent; stipe naked, central. Small.*

rotula, cespitose, white: pileus deeply furrowed: lamellae united in a tube surrounding the stipe: stipe becoming black.
androsaceus, in groups permanent: pileus flattish, sub-plicate, white, obsoletely bossed: lamellae simple, all attached: stipe becoming dark-liver-brown.
epiphyllus, in groups, minute, white: pileus membranaceous, convex, at length sub-umbilicate: lamellae few, ramose: stipe becoming black.
campanella, in groups; pileus hemispheric, umbilicate, striate, rust-colored: lamellae decurrent: stipe hollow, chesnut-brown.

10. *Pileus fleshy, depressed, oblique, entire or halved: stipe naked, not attached to the centre of the pileus, lateral, or none.*

(Pileus entire; stipe not in the centre.)

inconstans, largish: pileus sub-tenaceous, depressed, entire or halved, lobed, zigzag, somewhat reddish-yellow: lamellae sub-ramose, crisped at the base, white and somewhat shining.

(Pileus halved: stipe marginal: lamellae decurrent, diverging from the side of the pileus.)

flabelliformis, sub-stiped: pileus flattish, torn in various forms, margin crenate: lamellae three-cleft: stipe short or none.
spathulatus, erect spathe-form: pileus pale tan color; the middle part spongy and scaly: stipe perpendicular, channelled.
mollis, in groups, soft: pileus glabrous, gibbose, pale: lamellae watery-cinnamon color.
stypticus, cespitose, pileus sub-coriaceous, emarginate, tan-color, sub-farinaceous: lamellae very thin, veiny, connected, cinnamon color: stipe compressed, ascending, dilated at the apex.
mitis, in groups, all over white: pileus somewhat fleshy, glabrous, smooth: lamellae simple: stipe horizontal, dilated at the apex.

(Pileus halved, somewhat corky.)

alneus, coriaceous, tomentose, whitish-grey: lamellae split revolute at the margin. Becoming purple-cinerious.
abietinus, sub-cespitose, dark sooty-yellow: pileus glabrous, smooth: lamellae glaucous: branching in the young state.
coriaceus, coriaceous, marked with zones, tomentose, pale: lamellae sub-ramose, pale-woody.
sepiarius, coriaceous, hard, flat both sides: pileus strigose-tomentose, chesnut-brown: lamellae crowded, ramose, becoming yellow.

AGY'RIUM. Gr. *agurin*, (a crowd.) 1.
caesium, in heaps, nearly separate, convex, whitish-grey. On dead pines.

ALCYONIDIUM: Gr. *alkuoneion*, (foam of the sea.) 2.
diaphanum, branches elongated. 6 i.

ALECTORIA. Gr. *alector*, (without a bed.) 2.
jubata, thallus rounded, somewhat shining, livid-brown, very much

branched. Branches filiform, compressed at the axils. Apothecia of the same color, at length, convex, entire at the margin.

sarmentosa, thallus roundish, angular, somewhat pitted, dichotomous, pale yellowish: the extremities much branched, lax and slender. Apothecia rather concave, livid, pruinose, at length flattened.

usneoides, frond flat, compressed, striate longitudinally, very branching, pale-white: branches fibrous: receptacles flat, of the same color, entire. On trees.

ANOECTAN'GIUM. Gr. *aneiktos*, (open,) *agacion*, (a rose.) 4.

filiforme, Mx. stem slender-filiform: leaves closely imbricate, oval, denticulate in a similar-colored point: capsule ciliate at the apex: lid subconic: calyptre sub-villose. On rocks.

ANTHOCE'ROS. *Anthos*, (flower,) *keras*, (horn.) 3.

lævis, (wax liverwort) frond flat, undivided, scarcely undulated at the margin. On the earth in damp shaded situations.

punctatus, frond sinuate, undivided, crisped at the margin. On the earth where moist and shaded. 1½ i.

carolinianus, Mx. fronds with sharp roundish lobes, margin sub-entire, scarcely punctured above; the horn-form capsule about half an inch in length.

ARRHENOP'TERUM. Gr. *arren*, (strong,) *pteris*. (wing.) 4.

heterostrychum, erectish: leaves lax, imbricate, oval, obtuse, serrulate.

ARSCY'RIA. Gr. *arkus*, (a net,) the seeds fastened together by network. ½.

nutans, pale-yellow, sub-stiped, cylindrical, long, weak, drooping. On rotten wood. ½ i.

punica, heaped or cespitose, stiped, dull red: seed abundant, crimson-red. On rotten wood. ½ i.

ARTHONIA. Gr. *arthon*, of *aireo*, (to kill, destroy.) 2.

swartziana, crust cartilagin. membr. white. Apoth. sess. broad, tum. round. rep. irreg. and confl. with dark elev. dots.

obscura, crust membr. somew. olive-col. Apoth. min. flat, concave, somew. membr. oval-ellipt. and renif. wrink. dark.

lyncea, crust thin, sub-tartareous, equal, somewhat cracked, white. Apoth. clustered, flat, somewhat immersed, round, oblong and curved, black, caesious, (grey.)

punctiformis, crust somewhat determinate, membranaceous smooth, dark orange-yellow: receptacles minute, roundish, scattered, sub-immersed, flattish one side and sub-convex the other, dark colored. On the tender bark of branches of trees.

pruinosa, crust thin, of a tartar-like appearance, unequal, smooth, rimose, white; receptacles flat, immersed, roundish polygons confluent obscurely dark yellow, mealy-glaucous. On oak bark, &c.

ASPERGIL'LUS. Lat. sprinkling brush. Mould. 1.

pencillatus, filaments scattered, heaped, a line high, bearing long tufts of beaded seeds. On specimens in herbaria.

glaucous, in minute tufts of white erect filaments. Blue patches.

ATRACTO'BOLUS. Gr. *atractos*, (spindle,) *ballo*, (to cast.) 1.

ubiquitarius, resembling scattered flower to the naked eye. On wood and stones.

B.

BÆOMYCES. Gr. *baios*, (small,) *mukes*, (fungus.) 2.

roseus, crust unif. granulat. greenish white. Podetia very short, cylind. Apoth. sub-glob. wrinkl. pale flesh-color.

microphyllus, leaves minute, somewhat imbricated, rounded, nearly entire. Podetia simple, tubular, smooth.

caespititius, thallus clustered, ascending, leafy, pinnatif. cut and crisped: bright green above; white beneath. Tubercles from the disk of leaves convex, reddish brown.

rufus, Ach. crust uniform, rugose granulated and pulverulent greenish-white: podetia very short, somewhat compressed, apothecia flattish at the top, sometimes conglomerate, reddish-brown. ¼ i.

BAN'GIA. In honor of C. F. Bang, a writer on scripture Botany. 2.

laminariae, filaments tufted, fastigiate, equal. Bands approximating in pairs, many-dotted. 1-12 i.

BARBU'LA. Lat. *barbula*, (little beard.) 4.

caesptiosa, stem very short, sub-simple: leaves densely crowded together, oblong-linear, mucronate, convolute at the apex on becoming dry: capsules cylindric, with a straight-subulate lid of nearly its own length.

acuminata, leaves ovate-acuminate, concave, twisted on becoming dry: stems erect, simple and divided, becoming renewed: elongations of the renewed parts stand out behind the capsules.

fallax, stem ramose; leaves recurve-spreading: pericheth nerveless: capsules oblong; lid obliquely beaked. On walls and bye-lanes, &c.

lanceolata, leaves lanceolate, sub-apiculate, crisped when dry: fascicle of ducts strong: capsule bottle-form, straight: lid oblique.

tortuosa, caulescent, rather high, ramose: leaves lance-linear, acute, sub-denticulate, may become crisped: capsule straight, slender-cylindric: lid subulate.

BARTRAM'IA. In honor of J. Bartram, an American botanist. 4.

crispa, pedicels erect: leaves subulate, crisped, serrate at the margin, much contorted when dry. In the mountains about Williams College.

aderi, stem elongated, slender: pedicels erect: leaves lanceolate, serrulate, scarcely twisted when dry. Among damp mountain rocks, &c.

longiseta, stem short, lesser stems somewhat simple: leaves not dense, subulate, keeled and scarcely perceptibly denticulate, erect when dry: peduncle very long.

BATRACHOSPER'MUM. Gr. *batrachos*, (frog,) *sperma*, (seed.) 3.

moniliforme, frond moniliform, much-branched. Branches rather acute. Cauline whorls nearly distinct, globose.

BLA'ZIA. Gr. *blazo*, (useless.) 2.

pusilla, Sz. capsule marked, immersed in the frond, ovate-oblique, terminating in an open tube, permanent: frond orbicular or heaped together in abundance, beautifully green, net-veined, di- or trichotomous, bearing capsules on the apex.

BOLE'TUS. Gr. *bolos*, (a field,) Touchwood. 1.

1. *Pileus fleshy, cushion-like, easily separated from the elongated tubes.*

annulatus, pileus cushioned, campanulate, viscid, becoming yellow-livid; with spots, from brick-colored streaks, becoming red: pores yellow: stipe annulated. Among pines, &c. in autumn.

corticatus, stiped: pileus yellow, sub-viscid, orange in the centre; the fleshy part white, firm and ridgy or crisped: tubes yellow: curtain-like volva white: stipe thick, especially towards the base.

rufus, pileus dilated, plano-convex, brick-red: pores white: stipe long, torn-wrinkled: scales becoming black. In grassy woods, &c. autumn. This is a variety of the *aurantius*.

scaber, pileus subrugose, grey-sooty-yellow: pores becoming pale-white, depressed around the attenuated stipe: scales becoming black. In beech woods, &c. the beginning of autumn; at length it becomes dry, hard and dark colored. 3 by 4 i.

circinans, in groups: pileus viscid, sub-repand, thick straw-color or livid-yellow: pores acute, yellow: stipe somewhat slender, shortish, yellowish, rough with dark specks. Among pines, &c. early in autumn.

sub-tomentosus, middle-size: pileus cushioned, plano-convex, sub-tomentose, yellowish ash-color; the fleshy part not very changeable: pores large: stipe somewhat slender, reddish in the middle or yellowish and one-colored. Grows in woods in autumn.

radicans, pileus cushioned, yellow-cinereous; margin involute, sub-tomentose: pores citron yellow: stipe smooth, rooting, tomentose, one-colored. In oak woods, &c. autumn.

reticulatus, pileus cushioned, dilated, dirty yellow, mostly tessellated, and chinked; fleshy part becoming bluish: pores middle size; becoming yellow: stipe shortish, glabrous, of the same color of the pileus, red within. Pileus often 5 or 6 inches broad.

edulis, pileus cushioned, very broad, dark-yellowish purple, the fleshy part not changable: pores at first filled and whitish, afterwards pale yellow: stipe tuberous sub-ventricose, reticulate, reddish-grey. In woods, &c. autumn.

luridus, large: pileus cushioned, dark olive: pores equal, at first red, at length orange; stipe elongated red, reticulate, sub-bulbous. In July, large. 6 by 2 i.

2. *Pileus fleshy, coriaceous, mostly somewhat corky: tubes shortish, connected with the substance of the pileus.*

(Pileus entire: stipe central, or a little out of the centre and perpendicular.)

brumalis, pileus convex, sub-umbilicate, of a darkish shade becoming yellow, margin ciliate: pores oblong, white. Late in autumn on decaying trunks, &c.

perennis, coriaceous, tenaceous, cinnamon color: pileus thin, with zones, mostly connate. On the earth about decaying trunks, &c.

(Pileus halved; stipe lateral.)

frondosus, very branching: pilei many, halved, sooty-grey. About roots of oaks, &c. in autumn. The whole group or mass sometimes a foot broad.

lucidus, pileus very tough, coriaceous, chesnut color, shining, with concentric furrows: pores minute, white. Stipe variable. On trunks of trees, very large, becoming tawny.

badius, sub-cespitose: pileus glabrous, tough, liver-brown, paler at the margin: pores minute, pale: stipe lateral, short, thick, dark cinereous. On hollow logs, &c. in autumn.

varius, sub-solitary; pileus tough, reddish-yellow, halved or entire: stipe sub-lateral, elongated, black from the middle downward. On trunks 1 to 2 inches broad.

(Pileus halved; without a stipe.)

citrinus, imbricate, halved, fleshy, glabrous, citron-yellow. Roots of oaks, &c. in summer and autumn.

odoratus, halved, odoriferous, sub-deformed: pileus rugose, with zones or parallel bands: dark shade at the base, margin arched and cinnamon color beneath, opake. On trunks.

marginatus, simple or sub imbricate: pileus thick, hard tuberculate, becoming red or reddish yellow, margin issuing a white juice: pores pale or light citron-yellow. Very hard and hairy, about 4 inches. When recent, acid drops of a liquid issue from the margin.

igniarius, dilated, smooth, cuticle in ridges; pileus hard, becoming dark at the base, at the margin cinnamon-color, beneath yellowish-white. Grows on trunks. General form like a horse's hoof. It is called *touchwood*. 6 to 18 i.

betulinus, sub-stiped, largish; pileus flesh-corky, reniform, dirty reddish-yellow, white beneath. On roots, &c.

fomentarius, halved, hard; pileus sub-triquetrous, with obsolete belts, dirty ash-color: pores at first white glaucous, at length sub-ferruginous. Used for tinder.

velutinus, corky, simple, pileus convex, thin, hirsute, white: pores minute, dirty white. About 1½ inches broad, somewhat zoned. On dry trunks, &c.

lutescens, sub-cespitose, corky: pileus depressed, thin, tomentose, pale; with hirsute zones becoming yellow. On trunks, &c. with the last which it resembles but is rather broader.

versicolor, cespitose, coriaceous; pileus thin, with bluish many-colored zones: pores white. On dry trunks. Autumn and winter.

cinnabarinus, in groups, uniformly of a cinnabar or vermillion color: pileus thickish, ridgy, obsoletely zoned, sub-tomentose. One or two inches diameter.

3. *Open or effuse, upside down* (that is, the pores or tubes on the upper side) *pileus mostly obsolete.*

destructor, white; pileus unequal, undulated, rugose; pores roundish-obtuse. Grows in buildings, &c. which it tends to destroy. Its substance is fibrous and becomes dry.

radula, pale white, subtomentose; pores acute, unequally prominent, rough.

4. *Tubes free among each other.*

hepaticus, fleshy, blood-red, halved; tubes free, becoming yellow. Roots of oakes, &c. in autumn.

BORRERA. In honor of Borrer, a British botanist. 2.

leucomela, thallus palish: segments erect, linear, multifid, attenuated, ciliated: beneath very white, powdery and channelled. Apothecia with a flat black caesious disk. 1½ i.

furfuracea, thallus greenish-gray, farinaceous: segments linear, attenuated, branched, grooved, naked, rugose and blackish beneath. Apothecia somewhat marginal, cup-shaped with their margin thin inflexed. 1½ i.

chrysophthalma, thallus yellow, naked, and of the same color on both sides: segments linear, flattish, pinnatifid, branched, fibrous at end. Apothecia somewhat terminal with an orange-colored disk. 1 i.

ciliaris, thallus greenish: segments linear, branched, attenuated, ciliated at end, whitish and channelled beneath. Apothecia somewhat terminal: disk concave, becoming flat, with a fringed border. 1½ i.

exilis frond pale white; divisions very branching, entangled a little, compressed, capillary, attenuated: receptacles scattered, disk flattish, saffron color, with a thin entire frond-like margin.

columbiana, Nutt. thallus cartilaginous, cespitose, sulphur-yellow, somewhat compressed, sub-lacunose, divaricate, spread-branched; divisions erectish, attenuate, slender: scutellae sparingly aggregated, mostly terminal, fuscous; hairy rays of the margin reflexed. Grows on pine trees, R. Mts.

BO'TRYTIS. Gr. *botrus*, (a bunch or grapes.) 1.

diffusa, very lax tufts; branches few, white, long, spread, having short branchlets bearing round clusters of seeds. On decayed herbs. ½ i.

parasitica, somewhat tufted, lax, white, slightly branched: seeds roundish. On Shepherd's purse.

BOVIS'TA. Lat. *bovis* (of *bos*, an ox) ox-buffball. 1.

nigrescens, white, becoming blackish-brown; plicate beneath. Largish; in pastures. 2 i.

gigantea, almost sessile, very large, globular, yellowish-white; having scattered sub-obsolete scales: in pastures; often from 6 to 12 inches in diameter.

BRY'UM. Gr. *bruon*, (moss.) 4.

1. *Staminate flowers peduncled, leafless.*

androgynum, leaves lanceolate, acute, imbricate-spreading: capsule erect, oblong; lid conic. In damp woods.

2. *Staminate flowers sessile, terminal, bud-form: capsules peduncled.*

carneum, stem simple: leaves lanceolate, acute, entire, reticulate, remotish: capsule pendulous, ovate. In damp shades.

argenteum, stem ramose at the base, cespitose: leaves ovate, concave, mucronate, imbricate, glaucous-silvery: capsule ovate-oblong, pendulous. On walls, houses and sandy soils.

cæspititium, stem ramose at the base: leaves lance-ovate, acuminate, imbricate: capsule oblong, pendulous: lid convex. On walls, houses, &c.

3. *Staminate flowers sessile, terminal, with a disk-like tuft of leaves.*

roseum, stem erect: leaves crowded together, stellate, oblong, entire, acute; capsule oblong: lid conic. In woods and bushes.

cuspidatum, leaves lance-ovate, serrate: capsule ovate, pendulous: lid conic, obtuse. In moist shades.

punctatum, stem erect, sub-simple: leaves obovate, entire, punctate-reticulate: capsules ovate: lid subulate, incurved. In damp shady lawns, &c.

4. Flowers perfect; germs nodding.

nutans, stem sub-simple: leaves lanceolate, acute, keeled: capsule obovate, nodding, lid convex, short-mucronate. In dry barren situations.

BULGA'RIA. Lat. *bulga*, (a leather bag) false peziza. 1.

inquinans, turbinate, firm, scale-wrinkly outside, umber-color: disk flattish and dark-colored. On dead oak.

sarcoides, irregular, cespitose, subgelatinous, somewhat firm, reddish-purple and somewhat veiny outside; seed-bed concave. On decaying trees. ½ i.

BUXBAU'MIA. In honor of Buxbaum, a German botanist. 4.

aphylla, destitute of apparent leaves, fungus-like. 1 i.

C.

CALI'CIUM. Gr. *kalukion*, (a little cup.) 2.

stegonellum, crust somewhat contiguous, unequal, whitish or none. Apothecia sessile, sub-globose, dark, smooth: disk dot-like, becoming flattish with a thin shining margin. 3 i.

cantherellum, crust thin, whitish, powdery, apothecia lentiform: disk flesh-colored, becoming brown powdered, stalks filiform, naked, pale, becoming brownish or black. ½ i.

turbinatum, puffs turbinate, nearly sessile, black rather polished: disk dark, opake, puncticulate, within a thick contracted margin. On trunks of trees, &c.

CALO'CERA. Gr. *kalos* (beautiful) *keras* (horn) horn-club. 1.

tuberosa, yellowish, tough, subsimple; stem tuberous long-rooted. Under bark of trees. 2 i.

cornea, tufted, small simple and branched, viscid, yellow, connate at the base. On trees. ½ i.

CALYM'PERES. Gr. *kalumma*, (veil,) *peros*, (mutilated.) 4.

hobsoni, stem elongated: leaves linear, serrate, with a thick line below the margin: calyptre smooth. 1 i.

CAMPYLO'PUS. Gr. *kampulos*, (curved.) 4.

pulvinatus, stem ramose fastigiate: leaves lanceolate, hairy: capsule oval, nodding: lid subulate. On walls.

CANTHAREL'LUS. Fr. *chantarelle*, (string of a violin,) eatable fungi. 1.

ciba'rius, yellow, cap fleshy irregular smooth: veins tumid; stipes solid, tapering at the base. In fields. 1½ i.

cornucopioides, cap tube-form pervious scaly black-umber; wrinkles, obsolete. Purplish, elastic. 2 i.

lutescens, cap sub-membranaceous funnel-form, waved, yellowish or brownish; veins anastomose: stipes hollow, yellow. 2 i.

CARPOBOLUS. Lat. *carpos*, (fruit,) *bolos*, (sphere.) 3.

orbicularis, fronds about half an inch in diameter, often confluent, never superincumbent: capsule yellow, semi-transparent.

CATHARI'NAEA. Gr. *kathariza*, (to purify.) Or perhaps Catharine. 4.

undulata, leaves lanceolate, serrate, undulated, crisped when dry: capsule cylindric: lid subulate. Shady woods.

CENANGIUM. Gr. *kenos*, (hollow,) *aggion*, (bag.)

quercinum, simple, in heaps, long, zigzag, at first closed, afterwards open with a broad pale disk. On dead plum-trees. ¼ i. 1.

CENOMYCE. Gr. *kenos*, (empty,) *mukes*, (a small fungus.) 2.

alcicornis, thallus foliaceous, very pale, glaucous-green, the segments sub-palmated, ascending, obtuse and incurved. Podetia elongated, turbinate all cup-bearing, smooth, the cups regular-crenate, with the margin at length leafy and proliferous. Apothecia brown.

pyxudata, thallus foliaceous. Segments crenulated ascending, podetia all turbinate, elongate cup-shaped, glabrous, at length granulat. warty rough, greyish-green: cups regular; the margin at length prolifer. Apothecia brown.

fimbriata, thallus foliaceous: the segments small, crenate, podetia elongated, cylindrical, cup-bearing, sometimes subulate, slightly pulverul. white: cups regular, their margins cut, and crenate, at length prolif. apoth. brown.

gonorega, thallus floccous. Segments broadish, crenulate, cut. Podetia longish, smooth, somewhat warted, glaucous or whitish green. Apothecia irregular, torn into rays, proliferous at the edge.

ecmocina, thallus foliaceous, segments small crenate, podetia long subulate, sterile and fertile, smooth, livid-brown, apothecia cup-shaped, toothed at the edge, occasionally proliferous.

bacillaris, thallus foliaceous small: segm. inciso-lobate crenate, podetia cylindr. simple and somew. branch. at the extremity, greenish-white, granulated, rarely cup-bearing; cups narr. at length radia. apothecia minute, scarlet.

deformis, thallus foliaceous, minute: segments broadish, cut-crenate, naked beneath, podetia long, thick, sub-ventricose, sulphur-colored, slightly pulverulent, cup-bearing, cups narrow crenato-dentate, at length dilated and jagged, apothecia sessile and pedunculate, scarlet.

coccifera, thallus foliaceous minute: segm. rounded crenate naked beneath, podetia elongated, turbinate, naked, nearly pale-yellow or greyish green, all cup-bearing, cups with their margins spreading fertile, apothecia large, at length stalked, scarlet.

sparassa, thallus foliac. minute lobed and crenated, podetia elongated, branch. sub-ventr. granulat. rough with leafy scales, cup-bearing: cups irregular, pervious, dentato-radiate, proliferous, apothecia stalked, pale brown.

delicata, thallus foliaceous with minute granular lobes, podetia smooth, granular, pallid, divided at end: divisions very short, apothecia clustered, brownish black.

furcata, podetia elongated, smooth, livid-drown, dichotomous, axils not perforated, branches narr. subulate, curved, the extremities forked, divergent: fertile ones with brown apothecia.

uncialis, podetia elongated, glabr. pale dichotomous: the axils perforated open; the extremities of the branches patent, short, acute and rigid, apothecia small, terminal, brown.

rangiferina, podetia elongated, cylinder erect, roughish, hoary, branched: axils often perforated, branches scattered, very much divided, spreading, the ultimate ones sub-radiate or drooping, apothecia subglobose, clustered, brown. Var. *pungens*, podetia cinerious, dichoto-

mously branched, rigid, forming a cushion-like tuft, axills not bored through, end of branches mucronate, diverging, brownish.

vermicularis, podetia subulate, nearly simple, smooth, very white, subfistulose, flexuose, prostrate.

CERA'MIUM. Gr. *keramas*, (a small measure.) 2.

diaphanum, filam. dichotom. much branched somewhat membranous variegated with purple and hyal. Joints elevated. 5 i.

rubrum, filam. dichotom. much branched, somewhat cartilaginous, branchlets forked. Artic. ovate, opaque. 10 i.

roseum, filam. branched. Branchlets alternate, rigid, spreading, subulate. Artic. 3 times as long as broad. 1½ i.

tetricum, primary filaments downy. Branches straight, decompound, pinnate. Artic. 3 times as long as broad. 6 i.

CERA'TIUM. Gr. *keras* (horn.)

hudnoides, growing in small tufts: filaments sub-confluent, simple or branched and fascicled. On dead wood. 1-12 i.

CETRARIA. Lat. *cetra*, (a square buckler.) 2. l.

juniperina, thallus pale-yellow, very yellow beneath: the segments plane, ascending, erose, crenate and crisped. Apothecia elevated: their disk brown; the margin crenulated. 1½ i.

glauca, thallus glaucous, somewhat shining, sinuated and lobed, brown beneath: the segments cut and jagged, curled, ascending. Apothecia elevated, chesnut brown: their margin wrinkled. 2 i.

islandica, thallus olive-brown, paler beneath: the segments erect, sublinear, multifid, channeled, smooth, dentato-ciliated; fert. branches spreading. Apothecia appressed, plane, of the same color: margins elevated, entire. 2 i.

CHON'DRIA. Gr. *chondros*, (cartilage.) 2.

pusilla, frond compress. filif. somew. contract. here and there, fructif. either min. tuberc. or scatter. spor. in ramuli. ¼ i.

articulata, frond filiform, chain-like, in joints, tubular. Branches fastigiate, dichotomous and whorled. 6 i

CHORDA'RIA. Gr. *chorde*, (a cord.) 2.

flagelliformis, frond much branched. Branchlets virgate, somewhat distichous, spreading at the base. 24 i.

CLADOSPO'RIUM. Gr. *klados*, (branch, bearing the fruit.) 1.

herbarum, tufted, minute, olive-green, becoming blackish and rigid. On dead stems.

CLAVA'RIA. Lat. *clava*, (club.) 1.

1. *Coral-like; clavate pileus branched.*

(Stems or stipes very thick.)

coralloides, white erect; branches elongated, irregular, mostly acute, unequal. Coral club. On the ground. 3 i.

formosa, very branching: stem sub-decumbent, thick, white: branches elongated, rose-orange; branchlets obtuse, becoming yellow. In groves.

flava, stem thick, white: branches and branchlets straight, shortish, yellow. In autumn it grows in shady woods, about 3 inches long.

botrytis, sub-deformed; stem very thick, decumbent, becoming palish-white: branches shortish, sub-rugose; branchlets obtuse, red. On fallen trees, &c. 3 i.

(Stem slender, or not so thick as to equal all the branches taken together.)

palmata, somewhat winged or wing-like, becoming pale: stem slender: branches sub-compressed, palmate. About 3 inches long and the breadth about the same.

corniculata, sub-ramose, yellow: stem slender, elongated, twice ternately divided in forks; branchlets acute. Branches mostly compressed; branchlets a little woolly. In woods, 1½ inch long. 3 i.

byssiseda, various, sub-ramose, small, pale reddish-yellow; rootlets byssus-like or flax-like, white, sessile or sitting down. Springs up among fallen leaves, &c.

mucida, in groups, minute, simple and ramose, white: apex ochre color: sitting down with a tomentose base. On decaying trunks, &c. about the fourth of an inch long, substance tough.

cornea, in groups, minute, viscid, becoming yellow, simple and ramose; connate at the bases. On trunks in autumn, scarcely the fourth of an inch long. ¼ i. Rarely.

2. *Simple; the clavate pileus not branched.*

ligula, sub-cespitose, pale reddish-yellow, opake, various, villose and slender at the base, terete or sub-compressed at the apex. Adhering to branches, &c. about 2 inches long.

pistillaris, solitary, large, thick, from yellow becoming a little reddish; round at the apex. Nearly cylindric at first, and becoming thick and sub-rugose. Has a bitter taste. 12 i.

fusiformis, cespitose, heaped together, orange; clavate pileus attenuated, sub-tenacious, cohering at the base. In woods. 3 i.

flavipes, cespitose, fragile: clavate pileus sub-falcate, acuminate, pale; approximate at the base: shining yellow.

eburnea, cespitose, crowded, fragile, snow white. In shady woods on the earth. Very variable; but distinguished by being white and fragile.

herbarum, in groups, minute, lanceolate, sub-tenaceous; becoming dark-olive. Hardly belongs to this genus. About one sixth of an inch long, on leaves and other herbage.

muscicola, very minute, white, sub-incrassate, curved, all glabrous; sitting down with globose tubercles.

gyrans, on leaves: wholly white, filiform: stipe with long pubescence. In autumn. Stipe white, weak.

rugosa, (pond 3 miles E. of Troy.) See Loudon.

CLIMA'CIUM. Gr. *klimax*, (stairs.) 4.

dendroides, (tree moss.) stem branching, tree-form: leaves crowded, erect, lanceolate, sub-3-nerved, serrulate above: capsule erect.

CO'DIUM. Gr. *kodion*, (skin.) 2.

tomentosum, frond dichotomous, fastigiate, cylindrical. 6 i.

COLLEMA. Gr. *kolle*, (glue.) 2. l.

nigrum, thallus crustaceous, roundish, brown-black: lobes of the circumference cut-crenate; central granular, a little branced, apothecia becoming convex, black-edged.

crispum, sub-orbicular: the central lobes somewhat erect, granulated: those of circumference depressed, larger obt. crenulate, fructification scattered, rather concave, reddish with a granulated margin.

tenax, sub-orbicular, imbricated: lobes thickish, flat, incumbent, roundish, cut-lobed and crenulate, apothecia scattered, immersed in the lobes and concave, rufous with an entire edge.

palmatum, thallus sub-foliaceous, green-brown-glaucous: lobes thick, close palmate, cut, segments somewhat linear, round, apothecia rufous brown.

burgessii, thallus foliaceous, somewhat imbricated, glaucous greenish-brown, pubescent and somewhat spongy beneath. Lobes rounded, sinuated, crenulate and crisped, apothecia depressed, planish brown: their margin foliaceous crisped.

nigrescens, thallus foliaceous, membranous, sub-monophyllus, orbicular, depressed, plaited, rounded and lobed, black green, apothecia central, crowded, at length convex, reddish brown, their margin entire.

furvum, thallus foliaceous, membranaceous, somewhat wrinkled, complicated, blackish-green, granulated on both sides, lobes round, unequal, waved and crisped, entire apothecia scattered, plane, dark-brown: their margin entire.

tremelloides, thallus foliaceous, membranaceous, thin, sub-diaphanous lead-color, obsoletely rugose and dotted: lobes rounded, somewhat cut, apothecia scattered, sub-pedicellate, plane, reddish-brown, their margin pale.

lacerum, thallus nearly erect, foliaceous membranaceous, sub-diaphanous sub-rugose: with obscure reticulations, glaucous lobes small, sub-imbricate, lacinate and somewhat fringed, apothecia scattered, rather concave, red: their margins pale.

pulposum, frond sub-orbicular, formed of thick, sub-imbricate, repand-crenate, plicate, naked lobes: receptacles central, crowded, flattish, reddish-yellow, with elevated entire margins.

papulosum, frond orbiculor: central lobes thick, entangled, irregular; those of the periphery expanded, dilated outwardly, gash-crenate, warty blistered above.

pallescens, frond yellowish-green, pale beneath: lobes deformed, densely entangled, irregulraly crenate, ascending: receptacles sub-marginal. A variety of the *tenax*.

myrioccum, frond sub-orbicular, imbricate black; lobes crowded, entangled, crisped, granulate: receptacles minute, globose-turbinate, heaped together, marginal and scattered, one colored, marked with punctures. Among and on mosses, on rocks, &c.

pulchellum, frond foliaceous, membranaceous, orbicular, flat, sub-laciniate, round lobed at the periphery, plicate-papulose above, dark-green, paler beneath and deeply lacunose: receptacles scattered, crowded, elevated; disk urceolate, pale wax-color; margin thin, contracted, entire, at length sub-rugose.

CONFER'VA. Lat. *conferveo*, (to knit together) 2.

ericetorum, filaments simple, creeping, entangled, in a brownish-purple layer. Joints half as long again as broad. ¼ i.

vesicata, filaments simple, fine. Articulations half as long again as broad, with globular inflations at intervals. 6 i.

rivularis, filaments simple, capillary, very long, straight, equal. Articulations grain-bearing, 2 or 4 times as long as broad, shining, when dry.

linum, filaments simple, filiform rigid, crisped, loosely entangled, when dry variegated. Articulations turgid, dotted. ¼ i.

riparia, filaments branched, remotely capillary, very long. Branches short, divaricating. Articulations twice as long as broad. 3 i.

glomerata, filaments branched, capillary. Branches alternate: those at the end clustered, one sided-erect. Articulations cylindric. 1 i.

rupestris, filaments, much branched, setaceous when dry, dotted with black. Branches erect. Joints pellucid. Articulations cylindric, 3 times as long as broad. 4 i.

catenata, filaments more than bristly, trichotomous, shining, when dry dotted with black at joints. Articulations 3 times as long as broad 1 i.

CORNICULARIA. Lat. *cornicularia*, (little horns.) 2. l.

trisetis, thallus deep, pitchy-brown, rounded or sub-compressed, smoothish, distichously dichotomous, branches fastigiate, black above, apothecia plano-convex, blackish-brown, somewhat marginated, entire and toothed.

ochroleuca, thallus glabrous, pale yellowish-white, roundish, sub-erect, branched, branches short attenuated, blackish at the points, apothecia brownish pale in the circumference.

pubescens, thallus decumbent, rounded, roughish, branches intricate, capillaceous: the ultimate ones simple, apothecia of the same color, entire in the circumference.

fibrillosa, frond obscurcely soot-yellow, terete, smoothish, slender entangled, ramose, somewhat rough-haired, from the branchlets and fibres which are flexuose, ramose very thick, irregular, sub-clavate. On rocks. Variety of the pubescens.

CRATE'RIUM. Gr. *krater*, (a cup.) 1.

leucocephalum, cup-form, reddish-brown, with a very thin vanishing white convex lid; filaments white, seeds dark, with mosses. 1-6 i.

CRIBRA'RIA. Lat. *cribrum*, (sieve) pin-head. 1.

mionapus, gregarious, roundish; stipes short, blackish. On pine trunks. 1-12 i.

CRYPHAE'A. Gr. *kryphaios*. (concealed.) 4.

heteromalla, stem branching, diffuse: leaves lance-ovate, acute, 1-nerved: capsules lateral, sub-sessile. On trunks.

CYSTOSE'IRA. Gr. *kustis*, (a bladder,) *seira*, (a chain.) 2.

ericoides, leaves densely spiny all over. Vesicles elliptic, somewhat terminal, crowned solitary. Receptacle warty from inflated base of spines. 6 i.

CYTISPO'RA. Gr. *kutis*, (little chest,) *spora*, (seed.) 1.

chrysosperma, cells impressed on the receptacle: disk emerging, blackish, having a yellow tendril. On poplar bark.

D.

DACRYMY'CES. Gr. *dakru*, (tear,) *muke*, (fungus.) 1.

moriformis, conglobate, sinuate, dark, opaque, fleshy and purple inside. Mulberry-like. On dead wood.

stellatus, gregarious, entire, round-depressed, pulpy, orange. ½ i.

DAEDA'LEA. Lat. *daedalus*, (skillful work.) 1.

quercina, sessile, pale, woody; cup-suberose, rugose glabrous: seed-bed contorted sinuose anostomosing. On rotten wood.

DELESSER'IA. In honor of Delessert, of Paris. 2.

alata, frond ribbed, obsoletely nerved, linear, dichotomous, alternately pinnatifid towards the end. Pinnæ rather lingular. 6 i.

punctata, frond very thin, veinless, roundish, irregularly split at the end. Sori on the disk of the frond. 4 i.

DIAT'OMA. Gr. *diatoma*, (an incision.) 2.

flocculosum, filaments striated. Articulations nearly equal in diameter with parallel striæ. In ditches. 1-12 i.

marinum, articulations half as long again as wide, granulated transversely. Ocean. 1-12 i.

DICHOSPO'RIUM. Gr. *dicha.* (double,) *spora*, (seed.) 1.

aggregatum, clustered dots on the bark of trees.

DICRANUM. Gr. *dicranos*, (forked.) 4.

1. *Capsule with apophyses.*

cerviculatum, monœcious: stem simple: leaves capillary, without nerves, spreading, lax: capsule ventricose, erectish; apophysis gibbose.

virens, stems divided; branchlets erect, sub-divided: leaves clasping at the base, linear, flat, spreading, coiled: capsules nodding, at length curved; apophysis wen-like.

fragile, stem erect, ramose, very fragile: leaves erect, densely crowded together, somewhat whorled, lance-ovate, acuminate, sub-entire, with the margin undulated: capsule nodding, elongated; apophysis wen-like, at length striate.

2. *Capsules without apophyses or truncated processes on the foreside of the base.*

(Leaves turned to one side.)

scoparium, stem ramose: leaves lance-ovate, acuminate, keeled, falcate: pedicels sheathed, solitary: lid long-beaked.

condensatum, stem short simple: leaves lance-oblong, mucronate with extended fascicular points: capsules nodding: lids subulate. On the earth.

heteromallum, stem sub-simple: leaves capillary, 1-nerved, dilated at the base: capsule ovate; lid long-beaked.

othocarpon, small; stem short, simple: leaves setaceous, dilated at the base; peduncle lateral, longish: capsule sub-erect, oblong-ovate; lid beaked.

varium, stem sub-simple: leaves somewhat one-sided, lower ones lanceolate, upper ones subulate: capsules urceolate, somewhat nodding; lid conic.

(Leaves not one-sided.)

xanthodon, minute, leaves lanceolate, long-acuminate: capsules ovate; teeth of the peristome yellow.

polycarpon, stem ramose: leaves linear-subulate, twisted when dry, investing the stem on all sides: capsule obovate, erectish, furrowed. On rocks in mountains.

glaucum, small: stem ramose, thick with a dense foliation; leaves glaucous, convex-channelled: capsule sub-inclined, oblong-ovate; lid slenderly subulate, sub-inflexed.

3. *Capsules with truncated prominences on the foreside of the base.*

purpureum, stem dichotomous: leaves lanceolate, twisted when dry, furnished with a purple nerve: capsule oval: lid conic.

DICTY'DEUM. Gr. *dictuon*, (net,) *eidos*, (similar.) 1.

cernuum, gregarious, brown-purple, nodding, umbilicate: membrane of the pericarp deciduous; flocculence robust. On rotten wood. 1-12 i.

DIDY'MODON. Gr. *didumos*, (double,) *odous*, (tooth.) 4.

rigidulum, leaves lanceolate, cuspidate, from the middle nerve somewhat rigid: lid subulate.

DIPHYS'CIUM. Gr. *dis*, (two,) *phuskion*, (little vessel, or capsule.) 4.

foliosum, stemless: capsules sub-sessile: leaves lance-linear.

DIPLOCO'MIUM. Gr. *diploos*, (double,) *kome*, (lock or hair.) 4.

longisetum, caulescent: leaves gradually narrow-acute; upper ones subulate-acute, base broad.

DITI'OLA. Gr. *dis*, (double,) *iolos*, (down.) 1.

radicata, disk flattish, yellow: stipe thick villous, white, long-rooted. On pines without bark. 1 i.

DOTHIDE'A. Gr. *dothion*, (tubercle,) *eidos*, (similar.) 1.

typhina, long, surrounding the culms, whitish becoming dark yellow, at length rendered granular by the orifices. On grass stems.

DRAPARNAL'DIA. In honor of Draparnaud, a French botanist. 2.

plumosa, pencils of branches lanceolate, acute, erect. 6 i,

E.

ECTOCAR'PUS. Gr. *ektos*, (outside,) *karpos*, (fruit.) 2.

siliculosus, filaments nearly separate. Branches erect, subulate. Articulations rather longer than broad. Pods linear subulate. 6 i.

granulosus, filaments much branched. Branches scattering, spreading, tapering, acute: at tips hyaloid. Articulations as long as broad, finally tumid. 3 i.

ENDOCARPON. Gr. *endon*, (within,) *karpos*, (fruit.) 2. 1.

sinopicum, thallus crustaceous, cracked into areola, figured, somewhat lobed, greenish, rubiginous, depressed at the circumference, orifices depressed, black. 1 i.

tephroi'des, thallus crustaceous, sub-membranaceous spreading, and subfoliaceous contiguous, wavy, cracked, glaucous, ash-colored, irregularly lobed and crenate at the margin, beneath black somewhat spongy, orifices elevated-convex, black, perforated. 1 i.

hedwi'gii, plant sub-cartilaginous, roundish or somewhat angular-lobed, of an olive-green: beneath pale at margin; the rest blackish and fibrillose, orifice of the fructification sub-prominent, dark-brown. ½ i.

miniatum, thallus thick, crustaceo-cartilaginous, foliaceous orbicular, peltate, greyish, spread at margin, somewhat lobed and waved, beneath smooth, at length rugose and tawny, orifices minute, slightly prominent, brownish. 1 i.

weberi, thallus cartilagino-coriaceous lobed, greenish brown, olivaceous: beneath rather tawny or blackish, on both sides smooth; the lobes laciniated, waved, plaited and crisped, crowned, orifices rathes convex, black.

muhlenbergii, frond thick, crusty-cartilaginous, foliaceous orbicular, pel-

tate, obscurely tawny-green, thin, rugose-plicate and somewhat in chinks; dark tawny and tubercled beneath: little mouths convex.

ERI'NEUM. Lat. *erinaceus*, (prickly, hedge-hog.) 1.

fagineum, depressed, broadish, tawny red: at first thick clothed and pale.

acerinum, depressed, pale becoming reddish-brown: fruit-covering club-form, upper half often inclined. On under side of leaves.

pyrincim, reddish-brown: fruit-covering compressed, lid somewhat lax, apex club-form often truncate.

ERY'SIBE. Gr. *erusibe*, (mildew.) 1.

artemisae, minute: filaments forming a dense whitish web. On both sides of the artamesia leaf.

trifolii, globular, black; filaments giving both sides of the leaf a farinose aspect.

arctii, filaments simple granuliferous: bodies pear-form, small, thickly covering the whole under surface of the burdock leaf.

EURO'TIUM. G. *euros*, (mouldiness.) 1.

herbariorum, gregarious, punctiform, yellow; filaments whitish branched. On dried plants.

EVERNIA. Gr. *evernes*, (tall, branched.) 2. 1.

prunastri, thallus greenish-white, segments dichotomous, multifid, ascending, linear-attenuate plane, pitted, grooved and white beneath, apothecia bright brown, concave.

EXID'IA. Gr. *exeimi*, (to go forth,) Jew's ears. 1.

auricula, sessile, concave, flexuose, blackish, plaited on each side with veins; olive-grey and downy beneath. On elder trunks. 3 i.

recisa, soft flat-truncate, sub-repand, fuscous beneath, dotted, scabrous; stipes very short, oblique, out of centre. On dead willows. ¾ i.

EXOSPO'RIUM. Gr. *ex*, (out,) *spora*, (seed.) 1.

tiliae, gregarious, black, minute, convex: seeds elongated, obtuse, divided transversely by 5. On basswood limbs.

F.

FISS'IDENS. Lat. *fissus*, (split,) *dens*, (tooth.) 4.

bryoides, stem short: leaves facing 2 ways, lanceolate: pedicels terminal: capsules erect. In damp shades.

laxifolius, stem short: leaves facing 2 ways, lanceolate, slenderly denticulate: capsules erect. In damp shades.

adianthoides, stem elongated, ramose: leaves lanceolate, sheathed at the base: pedicels lateral; capsules sub-erect. In wet woods and meadows.

FISTULI'NA. Lat. *fistula*, (pipe or tube,) false boletus. 1.

hepatica, liver-like patches on oak trees. It is eatable, and intermediate between Boletus and Hydnum. 6 i.

FONTINA'LIS. Lat. *fons*, (fountain.) 4.

cappillacea, (water moss.) leaves acute, linear-awl-form, spread, longer than the capsule: sheaths and peduncles long filiform.

entopyretica, stem branched, three-sided; leaves facing three ways lance-ovate, carinate, acute, pericheth obtuse. In water, both stagnant and flowing.

FUCUS. Gr. *phukos*, (a seaweed, red color.) 2.

nodosus, stem compressed, here and there inflated with internal vesicles. Receptacles lateral, distichous stalk pyriform. 36 i.

vesiculosus, frond flat-ribbed, linear, dichotomous, entire. Vesicles spherical innate upon frond in pairs. Receptacle terminal, elliptical. 24 i.

loreus, cup radical, circular, plano-convex emitting from its centre a frond terminating in a very long dichotomous receptacle. 36 i.

FU'LIGO. Lat. *fuligo*, (soot.) 1.

rufa, reddish-yellow, cushioned: bark sub-rugose, fragile. On trunks of trees.

flava, yellow, opening roundish, with a cellular fibrous bark. On fallen leaves and trunks in autumn.

vaporaria, cinnamon-yellow, broad-cespitose, thick, cellular-fibrous when mature. On pulverized bark, first appearing like vapor.

FURA'RIA. Lat. *funis*, (a rope.) 4.

hygrometrica, (hygrometer moss.) leaves ovate, acute, concave, entire, inflected; capsules swelling, drooping, pear-form; pedicels very long, twisting spirally when dry.

flavicans, leaves setaceous, long-acuminate: peduncle capillary, pale.

muhlenbergii, leaves obovate, awned, concave, serrulate, spread: capsule obovate, oblique.

FURCELLA'RIA. Lat. *furcilla*, (a little fork.) 2.

fastigiata, the only species. 9 i.

FUSI'DIUM. Lat. *fusus*, (spindle.) 1.

griseum, mass thin, irregular, of a whitish or grey color. On dead beech leaves.

flavo-virens, mass bright-yellow or greenish.

G.

GEAS'TRUM. Gr. *ge*, (earth,) *aster*, (star.) Ground star. 1.

soliforme, volva multifid: peduncles and mouths of the fruit-covering numerous. In pastures. 2 i.

quadrifidum, fruit-covering globose stalked: orifice hoary: the radiating divisions mostly in fours, arched. In pine woods. 2 i.

stellatum, volva multifid spreading, divisions equal: head depressed spherical sessile: orifice acuminate. Damp ground.

rufescens, volva many-cleft, reddish: fruit-covering sessile, glabrous pale. In pine woods.

hygrometricum, volva many-cleft, inflexed, liver-brown; fruit covering reticulate, sessile, nearly uniform-colored. On gravelly soil.

GEOGLOS'SUM. Gr. *ge*, (the earth,) *glossa*, (tongue.) False club. 1.

hirsutum, stipe hirsute, black: seed-bed sub-plicate. In bogs. 2 i.

viride, green, sub-fascicled, seed-bed distinct; stipe with minute scabo. In meadows. 2 i.

GRAPHIS. Gr. *grapho*, (to write.) 2. l.

scripta, crust membranaceous, smooth, somewhat shining, white or greyish-brown, bordered with black, apothecia half immersed, naked flexuose, simple or branched: disk very narrow, margin formed of the thallus, raised, membranaceous.

serpentina, crust cartilaginous, membranous, unequal, rugulose of a regular figure, white and cinerious, apothecia immersed, long, clustered, flexuose, nearly simple and branched.

lyellii, crust membranous, polished, pale olive, apothecia clustered, near-

ly simple, curved, turgid, obtuse: disk broad, convex cinerious, pruinose, with a thick, powdery-white margin.

GRIM'MIA. In honor of Grimm, a German botanist. 4.

1. *Capsules sub-sessile, immersed.*

alpicola, stem ramose: leaves lanceolate, obtusish: capsule ovate-urceolate, smooth, sub-sessile; calyptre torn at the base; lid obliquely beaked.

apocarpa, stem ramose: leaves ovate-acuminate, carinate, naked at the apex: capsule oblong, striate, sub-sessile. On moist trunks.

michauxii, Torrey. slenderly caulescent: leaves lanceolate, terminating in a capillary, white-pellucid and roughish point: pedicel terminal: capsule short-ovate, smooth. Michaux describes this species under the name *gracilis;* but this name having been applied to another species, Dr. Torrey substituted the name of its discoverer. Herb. Tor.

pilifera, stem erect, branching: leaves densely imbricate, lanceolate, erect spreading and incurved: hairy pericheth large: capsules ovate, sub-sessile: lid conic, cuspidate.

2. *Capsules peduncled, exsert, short.*

ovata, stem very branching, fastigiate: leaves lanceolate, obtusish, erect spreading, somewhat inflexed, hairy: capsules oblong-ovate: lid convex-conic.

Remark. Many species of the genus Grimmia are referred to the genus Weissia.

GYMNOSTOMUM. Gr. *gumnos*, (naked,) *stoma*, (mouth.) 4.

1. *Stem simple, erect.*

pyryforme, stem very short: leaves ovate, acute, flat: dicœcious; capsules erect, pear-form; lid obtusely conic: calyptre split laterally.

turbinatum, stem short, simple, leaves lanceolate, apiculate, serrulate: capsules somewhat oblong-turbinate: lid convex, obtuse, acuminate.

splachnoideum, capsule contracted in the middle: leaves deeply serrate at the margin.

2. *Stem divided, procumbent or floating.*

prorepens, stipe creeping; stem erect, short, obtuse: leaves closely imbricate, lance-oval, acuminate: capsules globose: lids subulate.

GYROPHORA. Gr. *guros*, (a circle) *phero* (spherical.) 2. 1.

glabra, thallus smooth, blackish-green: beneath smooth, black and naked, apothecia at length, convex rough and plait. 2 i.

cylindrica, thallus somewhat naked, dark, greenish-grey, folded and lobed, strongly ciliated beneath, smooth, pale, with branching fibres, apothecia elevated, nearly plane, with concentric and plaited lines. 2 i.

pustulata, frond papulose, becoming cinereous-green; deeply pitted or lacunose beneath smooth, naked, pale tawny: receptacles distant, flat, marginated; disk sub-equal, papillose and plicate. On rocks, &c. 2 i.

papulosa, frond rugose, papulose, obscurely cinereous; under side lacunose, pale-tawny: receptacles very thick together, minute, urceolate: disk uniform and plicate, in some places heaped and conglomerate. On rocks.

pennsylvanica, frond papulose, tawny-olive; under side, pitted or lacunose, rough-granulate, dark-colored; receptacles marginated; disk flattish, uniform and plicate. On rocks and mountains.

muhlenbergii, frond somewhat glabrous, lacunose-reticulate, tawny-olive: under side papulose, with ridges lacerated and joining ends; scales of one color: receptacles in pits, depressed, flattish, round-plicate. On mountains.

mammulata, frond smooth, pale-olive, at length dark tawny; under side very dark, scabrous and fibrous: receptacles convex, rugose-chinked, nearly destitute of any margin: disk sometimes concave and papillose. On rocks.

vellea, frond smoothish, becoming cinereous; under side fibrous, hirsute, nearly of an uniform color, dark-tawny: receptacles sessile, flat, marginated; folds or wrinkles concentric. On rocks in mountains.

ISIDIUM. Gr. *isos* (equal.) Foot and frond about equal.

corallina, crust tartareous, greyish-white, podetia at length elongated, round, simple or branch. Apothecia brownish grey.

H.

HALYME'NIA. Gr. *als* (sea) *umen* (a membrane.) 2.

palmata, frond coriaceous flat palmate entire. Segments cuneate oblong nearly simple. 8 i.

HELICOSPO'RIUM. Gr. *elix* (a coil) *spora* (seed.) 1.

vegetum, cloud-like. At the foot of trees.

HELVEL'LA. Lat. *helvella* (a fungus, Cicero.) 1.

crispa, cap irregularly deflexed, free, often variously lobed, yellowish-white; stipe furrowed and lacunose-white. Field borders.

esculenta, cap inflated, deformed wavy-wrinkled in circles brown: margin villous adhering to the smooth stipe. Pine woods—eatable.

HYD'NUM. Gr. *udnon* (mushroom, puff-ball.) 1.

1. *Stems perpendicular, cap distinct, round, sub-entire.*

imbricatum, cap fleshy, flat, tessellated, scaly, not banded, umber: processes, yellow-ash-color: stipe short. Pine woods. 1 i.

repandum, cap fleshy, smooth, sub-repand, yellowish; subulate processes, the seed-bed unequal, pale; stipes unequal thick. Woods. 1½ i.

rufescens, cap fleshy orbicular sub-tomentose, flesh-brown: processes sub-equal; stipes thin, equal. Beech wood. 3 i.

2. *Cap halved, sessile, or not distinct.*

gelatinosum, cap gelatinous, papillose; processes mostly pyramidal, glaucous: stipe short lateral. Pine woods. ½ i.

coralloides, much-branched, white, becoming yellow, and branches entangled; processes one-sided, subulate. Trunks of trees. 1 i.

ochraceum, effuse-reflexed; cap leathery, thin, banded, ochre; processes minute, numerous, flesh-yellow. Pine woods. Has a shaggy appearance. 2 i.

HYMENEL'LA. Gr. *umen* (a membrane.) Seeds are a membrane. 1.

vulgaris, long, various, smooth, whitish, when dry becoming brown, periphery adhering. On nettle stems. ½ i.

HYP'NUM. Gr. *upnon* (moss.) 4.

1. *Leaves two-ranked.*

sylvaticum, branches divided: leaves imbricate, compressed, spread at the apex, lance-ovate, entire, nerveless: lid subulate. Woods.

denticulatum, stem simple: leaves imbricate, compressed, spreading at the apex, lance-ovate, entire, nerveless: lid conic. On trunks and ground in woods.

serrulatum, shoots creeping; branches simple, bearing fruit at the base and middle; lid beaked.

prælongum, stem pinnate, creeping: leaves lance-ovate, acuminate, serrate, 1-nerved, spreading: lid subulate, incurved. (1)

riparium, stem ramose, spreading: leaves lax, lance-ovate, entire, one-nerved: lid convex, slightly mucronate. On stones, &c. in flowing streams.

2. *Leaves imbricate, close-pressed—sometimes a little spreading, part of their length.*

cuspidatum, stem pinnate, sub-erect: branches cuspidate: leaves lanceoblong, nerveless, smooth: lid conic. In ditches and brooks.

illecebrum, stem with scattered obtuse branches: leaves ovate, ventricose, obtuse, mucronate; obsoletely one-nerved. Woods and meadows.

abietinum, stem pinnate, villose: leaves lance-ovate, entire, one-nerved, 2-furrowed: lid conic. In dry places and among pines, &c.

splendens, stem bipinnate: leaves lance-ovate, almost nerveless, shining, close-pressed: lid subulate, recurved. In woods.

delicatulum, stem decumbent, bipinnate: leaves cordate, with ruptured nerves and 2 grooves, scabrous: lid beaked.

minutulum, very slender, decumbent, pinnately branched: leaves very minute, oval, acute; margins and keel somewhat scabrous, separately incurved when dry: capsule recurved; lid long beaked.

adnatum, small; branchlets simple: leaves cordate-acuminate, destitute of fascicles: capsules nodding: lids conic.

3. *Leaves imbricate, spreading.*

graminicolor, stem creeping; branches sub-simple, erectish: leaves lax, sub-alternate, heart-lanceolate, acuminate, sharply serrate, with a nerve somewhat continued: capsules ascending, oblong, unequal: lid round conic.

hians, stem decumbent; branches short, simple: leaves somewhat lax, heart-ovate, acute, serrulate: peduncles a little scabrous; capsules oblong, slightly inclined; lid conic.

asprellum, stem decumbent, sub-pinnate, leaves remotish, somewhat bifariously imbricate, acuminate, serrulate with sub-continued nerves: capsules oblong, a little curved; lid conic, sub-mucrouate.

lutescens, stem procumbent, ramose: leaves imbricate, lanceolate, acuminate, 3-striate: peduncles a little scabrous: lid conic, acute. On dry earth, walls and rocks.

rutabulum, stem procumbent: branches erect, sub-simple: leaves lance-ovate, acuminate, one-nerved: peduncles scabrous: lid conic. On the earth and trunks.

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(1) This description, taken from Lk. and Dc. is similar to that given in Turton's Linnæus of the serrulatum.

cooleyanum, Sl. stem prostrate bipinnate with the divisions alternate and opposite: peduncles long, slender, twisted when dry: capsules shortish striate, recurve-arched, becoming fulvous: leaves recurved, nerveless, teretely, sub-semi-cylindrical, broad at the base, long subulate towards the apex. On decaying logs in swamps.

chrysostomum, procumbent; inordinately branched: leaves laxish, spreading, lance-oval, acuminate, entire, sub-linear: peduncles smoothish: capsules oblong, recurved; lid perfectly conic with a very acute spinose tip: peristome yellow.

triquetrum, stem sub-erect, ramose: leaves deltoid, acuminate, striate, somewhat nerveless, spreading every way: capsule ovate: lid conic, obtuse.

4. *Leaves imbricate, sub-reflexed or recurved.*

fragile, outer peristome, has the teeth lanceolate, remotely tubercled, yellow; inner one is a membrane, extended into an equal number of solid, lance-acuminate, very acute teeth, with ciliae a little less than the teeth, capillary, very acute.

stellatum, stem weak, procumbent: leaves ovate, long-acuminate, nerveless, entire, spreading: capsule oblong: lid with an obtuse apex.

squarrosum, stem ascending: leaves keeled, nerveless, ovate at the base, close-pressed, acuminate at the apex, recurved-spreading: capsule ovate; lid short-conic.

5. *Leaves turned to one side, and circinal falcate.*

crista-castrensis, stem elongated, somewhat simple, recurvedly and elegantly wing-branched: leaves recurve-curled one-way, subulate, with slender lineate nerves: capsules very long-peduncled, oblong, arched; lid conic.

commutatum, stem procumbent, ramose; branches sub-ramose: capsule large, becoming white, striate; peduncles pretty large. In water or mud.

cupressiforme, stem prostrate, sub-ramose; leaves lance-ovate, falcate, nerveless: lid conic.

imponens, very short, somewhat feather-branched, recurved: leaves uncinate, one way nerveless: capsule erect, cylindric: oblong: lid conic, obtusely beaked.

6. *Leaves turned to one side, and not circinal-falcate.*

fluviatile, branches rather long, simple: leaves lance-ovate, laxish, somewhat spreading: capsules oblong, erect-nodding. On rocks under water in rivers, &c.

orthocladon, decumbent, bulbiferous: branches simple: leaves ovate, nerves solid, very entire: lid conic. Flowers monœcious. Calyptre subulate, white. Bulbs in the axils of the leaves or at the apexes of the branches.

7. *Leaves remote, lax-spreading.*

serpens, stem creeping: leaves laxish, small, lanceolate, acuminate, one-nerved at the base: capsule elongated obconic: lid convex, mucronate. Shades.

HYSTE'RIUM. Gr. *usteresis*, (poverty, want, making poor.) 1.

pulvicore, gregarious, oblong or oval, striate. On oaks.

quercinum, bursting, flexuose, sub-ventricose, soft, dark-ash-colored. On young branches of oaks.

fraxinum, convex, tumid, oblong-oval, black, sub-concentric; seeds large, oblong, yellow. On dead ash.

linearе, sub-immersed, crowded, parallel, linear, black, lips of the orifice tumid, smooth: disk linear. Dead wood.

I.

ISA'RIA. Gr. *isos*, (equal, filaments equal.) 1.

microscopica, extremely minute, scattered, simple, club-form, white: filments and seeds not distinct.

mucida, cespitose, effuse; branchlets sub-depressed, forked, nearly soft. On decaying wood. On stalks of grass, &c.

JUNGERMAN'NIA. In honor of Jungermann, a German botanist. 3.

1. CAULESCENT.

A. *Having stipules.*

1. *Stipules in three rows.*

platyphylla, L. stem procumbent, bipinnate: leaves two-ranked, imbricate, roundish, obtuse: stipules entire, in threes. On bark of living trees. 2 i.

platyphylloidea, Sz. stem procumbent, bi- or tri-pinnate: leaves imbricate, vaulted, roundish-4-sided: stipules in threes, sub-equal, entire. Yellowish-green, tinged with brown. On rocks.

distans, Sz. stem diffused, branching, simply pinnate: wings lax, leaves not imbricate, sub-distant, alternate: stipules minute, round, entire, distant. 3 i. In dense tufts, on roots of trees; and on wet rocks. Dark green.

porella, Dicks. stem floating, irregularly branched and pinnate: leaves sub-imbricate, largish, oval, obtuse: stipules entire: broad leaves blackish blue. In brooks.

2. *Stipules in a simple series.*

a. *Leaves eared below.*

tamariscifolia, Schm. (1) stem creeping, pinnate: leaves two-ranked, obtuse, very entire; ears vaulted: stipules minute, very entire, two-cleft: calyx 3-cornered, 3-cleft, papillose. On trees and rocks: often dark brown purple.

dilatata, Weber. (2) stems entwined, creeping, sub-pinnate: leaves 2-ranked, obtuse, entire; lobes of the ears alternately clavate, and alternately very small or none: stipules large, 2-cleft, serrate, especially that of the calyx: calyx 3-cornered, 3-cleft, smooth. On trees. A green variety occurs in large tufts on rocks. Color varies, often blackish. ½ i.

serpyllifolia, Dicks. stems creeping, filiform, irregularly pinnate, shortish: leaves imbricate, eared; lobes unequal; upper ones largest, ven-

(1) dilatata, of many authors. (2) tamariscifolia, of many authors.

tricose beneath at the base: lower ones minute: stipules round, acutely and deeply bifid: green. Among mosses on wet rocks. ½ i.

b. *Leaves not eared.*

* *Leaves entire.*

† *Stipules 2-cleft or 2-lobed.*

pallescens, Eh. stem ascending, somewhat branched: leaves roundish, very entire, obtuse: stipules obtuse, 2-cleft; segments acute, evanescent. Wet or water.

trichomanes, Dicks. leaves imbricate, roundish, very entire: stipules roundish, with 2 obtuse lobes. In woods, on moist earth. 1½ i.

†† *Stipules entire.*

transversalis, Sw. stem creeping, sub-ramose: leaves imbricate, obliquely ovate, obtuse, complicate beneath at the base: stipules sub-orbicular-reniform, inflexed at the margin, very entire. Yellow. On rocks, rarely on trees.

clypeata, Sz. stem creeping, sub-pinnate, many interwoven: leaves imbricate, vaulted, (so that the semi-cylindric sprouts pass out,) 2-ranked, obliquely ovate, round, interwoven beneath at the base: stipules orbicular, affixed in the middle like a shield. Whitish-yellow. Growing downwards on trees and rocks.

** *Leaves divided.*

† *Leaves emarginate or two-toothed.*

bidentata, L. stem decumbent, ascending and sub-ramose at the apex: leaves with two acuminate teeth: stipules ovate, 4-cleft. Earth. 1½ i.

†† *Leaves with three or four small teeth.*

trilobata, Web. leaves obliquely ovate, retuse, unequally 3-toothed at the apex, and entire in the other parts: stipules 2—4-cleft; shoots from the axils of the stipules. 3 i.

tridenticulata, Mx. stem procumbent-creeping, many aggregated: leaves flat, two-ranked, largish, 3-toothed at the apex, sub-oval: stipules broad, roundish, denticulate, on all sides; shoots from the axils. Yellow. A variety, growing on trees, is dichotomous, dark brown, and smaller. In bogs.

reptans, L. leaves remotish, sub-4-sided, nearly equally 3—4-cleft at the apex: stipules similar to the leaves, 4-cleft. Stem pinnate. 1 i.

sertularioides, Mx. creeping, capillary: leaves bristle-form, 2-parted; bristles jointed: teeth of the calyx bristle-bearing.

laciniosa, Mx. creeping, very branching: leaves 2-cleft, with fringed divisions: calyxes lateral, oblong, a little glabrous: bristles short: stipules like the leaves.

pulcherrima, L. (Labrador.) stem erect, bi-pinnate; branches vaulted at the apex, incrassate: leaves 3-cleft: stipules 2-cleft, very long ciliate. Earth.

ciliaris, L. stem sub-pinnate, decumbent: branches slender: stipules and leaves split, having ciliae rather long. Smaller and lighter colored than the preceding. Rotten logs. 2 i.

tomentella, Eh. stem ascending, bipinnate, tomentose above: leaves and stipules 4-parted, having ciliae very long, becoming white. 3 i.

pauciflora, Dicks. (Labrador.) stem branched, creeping: leaves and stipules similar, erectly spreading, 3-parted, even to the base; divisions hooked.

B. *Without stipules.*

1. *Leaves eared.*

complanata, L. stem branched, creeping: leaves roundish, very entire: ears sub-ovate, flattish. On smooth bark: very rarely on rocks.

2. *Leaves not eared.*

a. *Leaves not divided.*

* *Leaves very entire.*

viticulosa, L. stem naked (excepting the radicled) ascending: leaves distant; sub-verticillate, a little convex, roundish, beautifully green. Rotten logs. 1½ i.

polyanthos, L. stem creeping rooting on the back: leaves sub-imbricate, sub-verticillate, a little convex, roundish, pale: calyx shorter than the bristle, divided. Moist ground.

lanceolata, L. stem creeping, rooting on the back: leaves imbricate, semi-verticillate, sub-convex, roundish-ovate. Reddish. On rocks and earth in woods.

scolaris, Schm. stem creeping, rooting: leaves sub-imbricate, semi-verticillate, convex, roundish, somewhat converging forward. Old logs: handsomely twisted: light-green and purplish.

sphagni, Dicks. stem creeping, with radicles on the back: leaves imbricate, sub-vertical, concave, roundish converging forward. 3 i.

orbicularis, Mx. small, with a creeping stem: leaves orbicular, entire, rising vertically in a double series. Reddish. On dry side-hills: and perhaps in woods among mosses.

juniperina, leaves quadrifarious falcato-secund, linear-lanceolate bipartted: segments straight acuminate. Frond terminal, calyx ovate leafy. 3 i.

cordifolia, leaves erect, concave cordate circumvol. Frond terminal and axillary. Calyx oblong ovate, sub-plicate: mouth minute toothed. 2 i.

** *Leaves toothed.*

asplenioides, L. leaves sub-imbricate, semi-verticillate, oblique, ovate, roundish, having small teeth. Among rocks, on the ground. 3 i.

b. *Leaves divided.*

* *Leaves emarginate, 2-lobed or 2-cleft.*

† *Margin of the leaves very entire.*

emarginata, Eh. stem erect, sub-ramose: leaves approximate, spread-diverging, obcordate, obtusely emarginate, angles obtuse. Moist rocks. ½ i.

funckii, Web. stem ascending, sub-simple: leaves sub-imbricate, spread-

ing, sub-horizontal, emarginate, angles obtusish. Deep red. Among lichens, in dry woods.

inflata, Huds. stem procumbent, sub-simple: leaves remotish, spread diverging, sub-horizontal, concave, acutely emarginate, angles acute. With the last.

curvifolia, Dicks. stem procumbent, branching: leaves sub-imbricate, erectish, 2-cleft, divisions alternated, incurved. Rotten logs.

michauxii, Web? shoots erectish: leaves 2-cleft, approximate, sub-imbricate, spread-diverging, very entire, acutely emarginate, angles acute: fructification terminal: calyx tubular, plaited at the apex.

bicornis, Mueller. stem creeping, sub-ramose: leaves remote, spreading, semi-verticillate, concave, emarginate 2-toothed, teeth acuminate, very acute, converging.

bicuspidata, L. stem flexuose, sub-ramose, creeping: leaves remote, spread-diverging, semi-vertical, flattish, acutely emarginate 2-toothed: teeth diverging.

connivens, Dk. shoots creeping: branches simply pinnate: leaves ovate, emarginate 2-cleft; teeth acute converging.

ehrhartiana, Web. stem short, decumbent, rooting on the back: leaves imbricate, somewhat spreading, concave, obtusely emarginate, angles acutish.

†† *Margin of the leaves toothed, serrate or crenate.*

undulata, L. stem erect, simple: leaves roundish obtuse, sub-denticulate, undulate, lobes obtuse: a little concave in front, convex behind. Bogs. Smaller than the next: leaves less ciliate.

nemorosa, L. stem erect, sub-ramose: leaves with roundish lobes, tooth-ciliate. Whitish-green. Large. A variety almost white, more ciliate: fructification nearly sessile. Possibly a distinct species.

resupinata, L. stem erectish, sub-branched: leaves resupinate; lobes sub-ovate, scarcely acute, denticulate. Reddish. Dry earth; leaves obtuse.

umbrosa, Schrader. lobes of the leaves sub-ovate, acute or acuminate, serrate. Reddish. Dry earth; leaves acute.

albicans, L. stem erect, subdivided: lobes of the leaf oblong, acutish, furnished with a nerve, serrate at the apex. Whitish-yellow: in tufts on the earth

** *Leaves unequally 3-toothed, or 3-4-5-cleft at the apex.*

pusilla, L. small, creeping: leaves sub-4-sided, plaited, margin in front obtuse, crenate, very entire on the other parts. Light green. On loamy ground. ¼ i.

quinquedentata, L. stem erectish, rooting on the back: leaves plaited, 4-sided, querciform below: apex with 3 or 5 acute, very entire teeth.

exsecta, Schm. stem creeping: leaves concave, unequally 3-toothed: teeth acutish, very entire. On earth, in moist woods. ¼ i.

incisa, Sz. stem rooting, sub-simple: leaves unequally 3-cleft; divisions channelled on the back, toothed. Moist rocks. ¼ i.

decipiens, Hk. stem erect, flexuose, sub-simple; lower leaves smaller, very entire; upper ones sub-4-sided, with one or more spinose, scattered teeth. 1 i.

II. Stemless.

sinuata, Sw. nearly stemless, frond sub-dichotomous, flat, nerved, margin undivided or sinuate-pinnatifid, very entire, glabrous. A large species. Bogs.

epiphylla, L. frond obovate, lobed, nearly nerveless; lobes sinuate, margin undulate, fruit-bearing above. Banks of brooks. 3 i.

pinguis, L. frond obovate, lobed, nerveless, glabrous, fleshy; lobes sinuate; fruit-bearing below. Wet and water.

multifida, L. frond creeping, bi-pinnatifid, nerveless; divisions narrow, broader at the apex. Wet.

palmata, H. frond short, somewhat ascending, digitate-palmate, nerveless. Dark green. Rotten wood, in wet places.

bipinnata, Sw. frond procumbent, bipinnate, nerveless; segments, towards the apex, attenuated. Shady rocks, among mosses. Small.

furcata, frond linear, decumbent, ramose, forked at the extremity, nerved, the margin at the bottom and on the back of the nerve pubescent, yellowish-green. On rocks and stones. ½ i.

pubescens, Schr. frond linear, branching, forked at the extremity, nerved, all over pubescent. Yellow. On mountains. 1 i.

cilifera, Sz. frond linear, very narrow, branching: not forked at the extremity, but sub-bifid; divisions attenuated, nearly nerveless; leafy at the margin; lobes spatulate, clavate and irregular, sometimes shoot-like, with intermixed ciliae. Elegant. Green or yellow. In dense tufts on rocks and earth.

oblonga, Sz. frond simple, broad, not lobed, oblong, sub-acuminate; margin undulate, or thick towards the nerves, plaited; on other parts very entire; the apex is sometimes produced into a long linear point. Frond one eighth of an inch in diameter. In water.

Remark. Most of the Jungermannie are in fruit late in the spring; some, however, in the winter; a number are rarely found in fructification.

L.

Lamina'ria. Lat. *lamina*, (thin plates.) 2.

esculenta, stalked, winged with pinnae, and running through the ensiform lamina. 60 i.

saccharina, stalk compressed expanded into entire linear-oblong laminae. 48 i.

La'sia. Gr. *lasios* (hairy.) 4.

trichomitrion, branch compressed: leaves oval, acuminate, striate longitudinally: peduncles of the length of the calyx; capsule ovate: calyptre profusely hairy. In mountains.

marginata, in very branching fascicles: branchlets erect, tapering, filiform: leaves oval, acuminate, revolute both sides so as to appear as if margined: nerves prominent: capsule oblong: lid subulate.

Lean'gium. Gr. *leios*, (smooth) *aggios*, (a capsule or bag.) 1.

floriforme, yellow, globose, stiped; fruit-covering splitting into beautifully expanded parts. Decaying trunks. 1-12 i.

Lecanora. Gr. *lecane*, (a dish or bowl.) 2. l.

atra, crust with a somewhat decided edge, granulated and cracked, greyish-white, disk of the apothecia plane, at length swelling and black; the margin free, raised at length waved and crenulate. 1½ i.

periclea, crust thin, somewhat leprous, and dispersed, whitish, disk of apothe. plano-convex, dark, dotted rough. Border obscure, powdery ½ i. Var. *exigua*, crust unequal, obscurely cinereous black. Apothecia minute, aggregate, flat, with a white crenular border, and brownish edge ½ i.

sophodes, verrucose-grandular, form cinereous, brownish-green. Apothecia heaped with a flat, coarse, dark, disk; brown when moistened, border tumid, inflexed, entire. 1½ i.

sulfusca, crust cartilaginous, smooth, at length granulated, unequal, white or greyish, disk of the apothecia plano-convex, brown or almost black: margin tumid, entire, at length waved and crenate. 2 i.

ventosa, crust tessellated, with tumid warts, yellow, green or grey, apothecia appressed, at length irregular, with the disk plane or swelling, red-brown, at length rising above the entire margin. 2 i.

varia, crust unequal, granular somewhat warted, pale-green, apothecia clustered: disk flat, pale-brown and variegated, border raised, inflexed, finely crenulate. ¾ i.

tuberculosa, crust greenish, ash-color, with roundish warts, circumference fibrous, apothecia mixed: disk concave becoming flat, blackish-glaucous, border elevated, thick. 3 i.

glaucoma, crust tartareous, tessellated, even, greyish-white, apothecia immersed in the crust: the disk plane, at length convex, sub-globose glaucous and powdery; margin entire, afterwards obliterated. 2 i.

albella, crust thin, leprous continues cream-colored, somewhat polished, apothecia sessile, whitish-buff, uneven with a thin white wavy border. 1½ i.

parella, crust granulated, or somewhat warted, white, apothecia thick, crowded by pressure, angular: the disk concave, and as well as the tumid, entire margin of the same color as the crust. 2 i.

tartarea, crust tartareous, with clustered granules, greyish-white, apothecia scattered: disk plano-convex, a little wrinkled, flesh-color; the margin inflexed, at length waved. 2 i.

salicina, crust granular, unequal, dirty-yellow, disk of apothecia flat, becoming convex, somewhat orange-colored; border thin, crenulated, becoming entire and flexuose. 1½ i.

lentigera, crust somewhat imbricated, white, lobes somewhat concave, flexuose cut-crenate, disk of apothecia flat, yellowish-brown: border elevated, tumid. 1½ i.

elegans, crust somewhat imbricated, plaited and rugose-tawny, orange, naked, lobes linear lanceolate waved convex somewhat distant radiating, disk of the apothecia concave, of the same color with the crust margin somewhat inflexed, entire. 1 i.

galactina, crust sub-imbricated, rugulose, whitish, lobed and crenulate at the circumference: fructification crowded angular; the disk plane, brownish, flesh-color, pruinose with a raised and at length crenate, flexuose border. 1½ i.

candelaria, crust scaly yellow, lobes very much crowded, cut and laciniated, imbricated, their margins minutely granular, apothecia nearly of the same color as the crust, margin elevated, entire. 1 i.

brunnea, crust imbricated, greyish, lobed and granulated, ash-colored brown, apothecia imbedded in the crust, crowded irregular: disk rather convex, red-brown, the margin elevated, crenulated, persistent. 1 i.

LECIDE'A. Gr. *lecco* (to crack.) 2. l.

atro-alba, crust spreading, very thin, cracked, black, with swelling whitish scattered areolae, apothecia plane or slightly convex, often in the interstices black, of the same color within. 3 i.

lapicida, crust tartareous, cracked, whitish ash-color, apothecia within the spaces of the crust depressed, flat, finally convex, somewhat confluent, dark with a thin edge. 3 i.

pretrae'a, crust thin, roundish, very finely cracked, somewhat powdery, white, apothecia grown into the crust, thick, protuberant, somewhat concentrical, dark-colored, with a tumid, elevated, contracted margin. 1½ i.

parasema, crust thin, sub-membranaceous, greyish-white, bordered with black at length spreading, somewhat granulated, apothecia nearly plane, sessile margined, black, blackish within. 3 i.

sabuletorum, crust scattered, granular irregularly lobed, cinereous whitish, apothecia clustered, convex, sessile plano-convex hemispherical, somewhat confluent, dark powdery inside. 1½ i.

silaceae, crust tartareous, tessellated, yellowish-red, apothecia sessile, plane at length convex, irregular, confluent, black, internally cinereous and black. 2 i.

immersa, crust thin, whitish, apothecia plano-convex immersed in the stone, margined, dark: disk pruinose; when moistened crimson, white inside. 4 i.

albo-caerulescens, crust tartareous, contiguous, even at length, somewhat tassellated and whitish, apothecia sessile and elevated, plane black, with a grey bloom and a black smooth border. Var. *turgida*, crust of a regular figure, contiguous, whitish caesious, apothecia immersed: disk depressed, hollowish. 3 i.

atrata, crust thin, in little cracks, punctate, very black: receptacles in the crust, wart form, one colored: disk urceolate. Dry rocks.

smeroleuca, crust sub-cartilaginous, becoming cinereous: receptacles close-pressed, flattish, somewhat margined, dark, white within. On bark of trees and decaying woods.

alba, crust sub-determinate, membranaceous, somewhat cracked, white, with conglomerated cinereous or greenish-milky dust at length scattered over it: receptacles minute, close-pressed, flat, dark. On trunks of trees.

asserculorum, crust effuse, thin, unequal, dark sooty: receptacles sessile, a little plano-concave, dark; one-colored within. On timber and dead wood.

urceolata, crust cartilaginous, membranaceous, determinate, rugose-cracked, glabrous, very white: receptacles sessile, urceolate, white-hoary; corneous and livid within under the disk: margin inflexed, sub-coarcate. On bark of trees.

corticola, crust sub-tartarous, granular-areolate, unequal, very white: receptacles minute, sub-immersed, grey-hoary; at length sub-globose, immarginate, naked, dark, becoming cinereous within. On the bark and trunks of trees.

Receptacles dark fuscous, or becoming fuscous, blended with some other color.

spadicea, crust cartilaginous, unequal, sub-granulated, becoming white-cinereous: receptacles thick, flat, fuscous-liver-brown, at length be-

coming dark; margin very thin and a little wrinkled; at length a little convex with the margin evanescent; color uniform within. On bark of trees.

varians, crust sub-membranaceous, cracked, afterwards granulated, becoming green-cinereous with dark limits: receptacles small, crowded, yellowish, fuscous and dark, impressed in the middle, sub-immarginate. On the bark of ash trees, &c.

russela, crust sub-cartilaginous, rugose, areolate-rimose, becoming pale-green with dark limits: receptacles sessile, glabrous, a little tumid, red-fuscous: the disk higher than the pale thin entire margin. On bark of trees.

pineti, crust very thin, dirty pale cinereous: receptacles sessile, minute, aggregated, urceolate, yellowish flesh-color, entire. In pine woods, on roots, &c.

sanguineoatra. crust thin, membranaceous, effuse, light green cinereous, at length sprinkled over with granulated dust: receptacles hemispheric, sub-immarginate, somewhat glabrous, dark purple and at length black.

Receptacles red or light flesh-colored.

icmadophylla, crust leprous-like, unequal, sub-granulated, whitish-green: receptacles sub-sessile, flat, flesh-colored, at length flexuous; the disk a little wrinkled, the margin thin or none. On the earth, on trunks and decaying wood.

capularis, crust sub-tartarous, whitish-green: receptacles superficial, urceolate, white; disk light brick-color, scattered pulverulent spots on the outside. This is a variety of *marmorea*, of Acharius. On lime and slate rocks.

Receptacles pale, becoming yellow, wax-colored, and orange.

lutea-alba, crust thin, smooth, white: receptacles crowded, at length convex, hemispheric margined, yellowish red, white within. Var.

holocarpa, has a dirty cinerious yellow crust and minute flattish, yellowish orange sub-obliterated receptacles. On the bark of trees, rarely on rocks.

Crust deformed or foliaceous.

globifera, crust imbricate, fuscous; lobes round, entire or sub-lobed, flexuose, sub-rugose, white beneath: receptacles at length sub-immarginate, sub-globose, obscurely reddish-yellow. On rocks.

decipiens, crust sub-imbricate; lobes somewhat separated, sub-peltate, roundish, flesh-colored and becoming fuscous, white beneath: receptacles marginal, convex and sub-globose, sub-immarginate, black. On the earth, particularly lime-stone mountains.

sorediatia, crust orbicular, rugose-plicate, imbricate, cinereous: margins of the lobes elevated and bearing the fruit-dots, dark beneath with spongy fibres: receptacles scattered, close-pressed, flat, dark.

demissa, Ach. crust warty, sub-imbricated, lobed at the margin; receptacle reddish, depressed. On earth and rocks,

subulatorum, crust effuse, granulated, in some parts lobe-branched, white-cinereous, receptacles crowded, sessile, plano-convex, hemispheric, sub-confluent, somewhat margined, dark; somewhat dusty

within, one-colored. Var. *geochroa*, is fuscous-cinereous: receptacles sub-globose, often crowded into conglomerate masses and shining. On earth and decayed moss.

Leio'tia. Gr. *leiotes*, (smooth.) 1.

infundibiliformis, cap depressed, cinereous, livid, smooth on each side; stipe solid, smooth. On the ground. 3 i.

nana, small, cap rugose, white beneath, smooth brown: stipe solid cylindrical, white. On trees. ½ i.

Lema'nea. In honor of Leman, a French botanist. 2.

fluviatilis, filaments simple, papillose. Papillae usually ternate. Articulations 5 times as long as broad. 6 i.

Lepraria. Gr. *lepra*, (leprosy, scaly.) 2. 1.

chlorina, crust thick, pulvinaceous, bright sulphur-color, composed of a dust-like substance, collected into somewhat hairy glob.

flava, crust spreading, equal, thin, somewhat cracked, bright-yellow, composed of sub-globose granules.

virescens, crustaceous, granulated, continuous, somewhat gelatinous: greyish, dull-green when dry; bright-green when wet.

farinosa, crust very thin, membranaceous, becoming white; suffused with white conglobated dust. On bark of old trees.

Leptostro'ma. Gr. *leptos*, (thin,) *stroma*, (layer.) 1.

scirpinum, orbicular, opake, bossed in the centre, at length entirely separating: disk whitish. On the scirpus, &c.

Lesk'ia. In honor of Leske, a German botanist. 4.

compressa, decumbent: branches 2-ranked, facing two ways, compressed: leaves lanceolate, flattish, somewhat extended: capsule oblong, straight; lid conic. On trunks of trees.

acuminata, creeping; branches short, sub-simple; leaves lance-acuminate, extended, fascicled: capsule erect: lid oblique, conic. On trunks of trees.

imbricata, creeping: branches shortish, simple, erect, bearing flowers: leaves extended, ovate, acutish, imbricate: capsule oblong, erect; lid conic.

gracilescens, creeping: branches somewhat simple: leaves acute, lanceolate, extended, imbricate-spreading: capsule straight: lid conic. On the earth.

rupincola, creeping: branches somewhat simple, rising: leaves cordate-acuminate imbricate, spreading: capsule cylindric, erect. On rocks.

fasciculosa, creeping: branches often crowded together in fascicles, short, simple; leaves cordate, extended, imbricate: calyx extended, long-acuminate: capsule nodding. In damp places.

varia, creeping: branchlets simple, erectish, varying in length: leaves concave, spreading, lance-acuminate: calyx and leaves oblong, extended, fascicled: capsule nodding.

squarrosa, creeping: the foliation somewhat 2-ranked, depressed, lax-imbricate, with squarrose hooks behind; leaves lanceolate, slenderly acuminate: calyx rather long, linear subulate: capsule nodding in an arch. Damp places.

Leucodon. Gr. *leukos*, (white,) *odous*, (tooth.) 4.

martinicensis, leaves entire; whorls many-flowered, capitate.

Li'cea. Gr. *liknon*, (corn fan.) 1.

circumscissa, gregarious, sessile, yellowish or brownish, sub-globose; the

upper half of the fruit-covering lid-like; seeds rarely mixed with a filament or two. Under bark.

LICHI'NA. From its resemblance to lichens. 2.

pygmæa, frond flat with spherical tubercles. ¼ i.

LO'PHIUM. Gr. *lophos*, (eminence.) 1.

mytelinum, somewhat stalked, dilated upwards, striated across, shining. Pine bark.

LYCOGA'LA. Gr. *lukos*, (wolf,) *gala*, (milk.) 1.

punctata, cespitose, round punctate, sub-cinereous.

miniata, globular, gregarious, red changing to brown: seed orange-red, at length purple-grey. Rotten wood.

LYCOPER'DON. Gr. *lukos*, (wolf,) *perdo*, (explosion.) Wolf puff-ball. 1.

borista, large, obconic, soft, whitish, plicate beneath; scales broad, often indistinct; at length blackish and spherical. 3 i.

pratense, white, soft, hemispheric, sub-sessile, smoothish, with scattered warts. Pastures. 2 i.

umbrinum, turbinate, a little bossed: cinereous, at length brown; rough with slender warts; gregarious. Pine woods.

pyriforme, dirty-grey, base tapering; top pointed; scales thin; roots long fibrous. Moist ground. 1½ i.

excipuliforme, large, white, variable; fruit-covering sub-globose, covered with spine-like warts; stipes smoothish, long plicate. Pastures.

LYNG'BYA. In honor of Lyngbye, a Danish botanist. 2.

muralis, filaments, stiffish, curved, wavy, thickish, with lax rings. 1-12 i.

M.

MARCHAN'TIA. In honor of Marchant, a French botanist. 3.

polymorpha, L. (brook liverwort. O. g-y. Jul. 2f.) pistillate receptacles radiated; staminate ones peduncled, peltate: fronds crowded together, lobed, nerved, and covered with small decussate veins. 2 i. Pistillate peduncles very long: nerves of the frond generally brown. On earth and stones, in wet or damp places.

hirsuta, Sw. (Nov.) pistillate receptacles hemispherical, sub-entire, margin hirsute; staminate ones sessile, roundish, plano-convex: fronds very broad, brittle, simple, or dichotomous at the apex: margin undulate. Dark green: fronds generally dichotomous, and lobed; lobes rounded, undulate, and often crenate: 2—3 inches long, and 1 wide; pistillate, peduncles short.

hemispherica, L. pistillate receptacles sub-hemispherical, nearly entire, sub-4-sided: divisions of the proper calyx obtuse: fronds smaller, crenate; beneath dark red; above beautifully green. On rocky ground. 1½ i.

conica, L. pistillate receptacles conic-ovate, somewhat angular; staminate ones sessile: frond long, creeping, verrucose, sinuate. On moist banks, walls, stones, &c. 2 i.

crinita, Mx. (Summer,) small, margin of the frond colored, erose-crenate: lobes roundish: pistillate receptacles sub-globose, 5-lobed; with long filaments proceeding from between them: margin and lower surface of the frond purple. On flat rocks.

androgyna, recept of the thecæ hemispherical half 4-cleft of 4 cells.

tenella, L. small: frond fork-dichotomous, narrow: pistillate receptacle sub-conic, with a many-cleft membrane below; divisions ligulate-linear: peduncles longish, delicate. Receptacles 3-cleft; divisions rounded. Frond green; beneath purple.

MEES'IA. In honor of David Meese. 4.

uliginosa, stem simple, short: leaves linear, obtuse: capsule pear-form, lid obtuse. In marshes.

MERU'LIUS. Lat. *merulius* (morel, fungus.) 1.

lachrymans, effused, large, yellow-rusty or orange: margin white and cottony: veins large forming irregular sinuosities. Decaying wood. Dry rot.

MESOGLOI'A. Gr. *mesos* (middle) *gloios* (viscid.) 2.

vermicularis, frond yellowish-brown. Branches divaricating. 5 i.

MITRATA. Lat. *mitro*, (turban.) 1.

paludosa, yellow, sub-gregarious, cap orange-yellow, obtuse, hollow: margin connate, with stipe. In wet places. 1 i.

abietis, gregarious, solid: seed-bed ovate, yellow: stipe slender, dark-brown, flexuose at the base. Spruce and fir woods. ½ i.

MNIUM. Gr. *mnion* (moss.) 4.

hornum, leaves lance-ovate, serrate: peduncles curved: capsule ovate, pendulous: lid obtuse.

palustre, stem erect, elongated, branching: leaves lanceolate, keeled, acute: upper ones bent over to one side: capsule oblong, sub-erect; lid conic, acute. In damp woods and fens.

MONI'LIA. Lat. *monile*, (ornament, necklace.) 1.

aurea, in beautiful tufted heads, golden-yellow, stiped. On rotten wood.

frutigena, stemless, cespitose, roundish, white-cinereous; thread, mould-like, with ovate articulations.

MORCHEL'LA. German, *morchel* (latticed mushroom.) 1.

esculenta, cap round or oval, margin contracted round the stipe: areoles much hollowed; stipe white, dilated towards the base. 3 i.

patula, cap obtuse separate as far as the middle: areoles rhomboid: stipes smooth. Earth, damp and middling. 3 i.

semilibera, cap short, conic, spread at the base; areoles shallow, partly formed of parallel ribs; stipes long-equal; thick white. Woods. 4 i.

MOUGEO'TIA. In honor of Mougeot, a botanist. 2.

genuflexa, filaments knee-jointed. Articulations six times as long as broad. 1-12 i.

MU'COR. Gr. *mukes*, (a small mushroom.) Mouldiness. 1.

stercorea, byssus-like, or hair-like, white becoming yellowish, stipes erect or lax, simple, bearing a small globule at the end. On manure. 2 i.

MYRIOCOC'CUM. Gr. *murios*, (a thousand,) *kokkon*, (seed.) 1.

precox, tubercles superficial, deformed, confluent, resembling spherias. On dead leaves. ¼ i.

N.

NAEMATE'LIA. Gr. *naima*, (gelatine,) *elio*, (to enwrap or roll up.) 1.

encephala, sub-sessile, powdery, plait-wrinkled, pale flesh-colore becoming dry. On dead pine and flesh. ½ i.

NECKE'RA. In honor of Necker a German botanist. 4.

1. *Leaves 2-ranked.*

pennata, foliage 2-ranked, compressed; leaves lance-oval, acuminate, nerveless, disk undulated: capsule immersed in the calyx (pericheth,) lid sub-conic and somewhat cuspidate. On trunks of trees.

macropodia, decumbent, sub-ramose: leaves flattish, lanceolate, facing two ways: capsule cylindric, strait, terminating in a long bristle.

2. *Leaves imbricate every way.*

cladorhizans, creeping: branchlets spreading and somewhat 2-ranked; summit rooting in some: leaves somewhat depressed-imbricate, oval, acute, nerveless: capsule cylindric: lid somewhat conic, oblong, obtuse; columella exsert. On trees.

seductrix, creeping: somewhat ascending: branchlets erect, in some places fascicled: leaves closely imbricate in a cylinder, oval, acuminate nerveless: capsule cylindric: lid from the base conic, shortish, cuspidate.

viticulosa, stem ascending, simple or with few branches: leaves lax, from the side of the base ligulate-obtuse: capsule oblong: lid conic, long-cuspidate, small. On trunks of trees.

NEPHRO'MA. Gr. *nephros* (a kidney.) 2. l.

resupinata, thallus, greyish-brown, pale, pubescent, and granulated beneath: fertile, lobules very short, apothecia, large, numerous reddish.

NIDULA'RIA. Lat. *nidus*, (nest.) 1.

str ta, obconic, hirsute, brown, striate inside. On rotten leaves &c. ½ i.

crucibulum, bell-cylindric, truncate at each end, somewhat downy, ochre-brown, smooth and pale, yellow inside. Pine bark. ½ i.

campanulata, campanulate, villose, ash-brown, lead-color and shining within. ½ i.

NOSTOC. Gr. *nostos*, (turning, god of mills.) 2.

commune, frond, expanded, deformed, plaited, wavy. 2 i.

pruniforme, frond globose, watery inside. Integument coriaceous, very smooth. ½ i.

O.

ONYGE'NA. Gr. *onux*, (a hoof,) *geinomai*, (to beat or produce.) 1.

equina, stipes short, sub-fibrous: fruit-covering scabrous, closed; seeds ovate. On decaying hoofs. ½ i.

OPEGRAPHA. Gr. *ope*, (crack,) *grapho*, (to write.) 2. l.

macularis, crust very thin, brownish-black, apothecia minute, much crowded, roundish, elliptical, at length rugose irregular: disk very narrow.

herpetica, crust somewhat membranous, very finely cracked, rugose roughish, cinerious-brown, apothecia minute, innate, clustered, convex, elliptical, oblong, straight, with a crack-like disk.

epipasta, crust very thin, of a regular figure, polished cinereous, apothecia, innate, minute convex, rugulose, opake, various: smaller dot-like; longer, very slender, flexuose, somewhat branched.

abnormis, crust thin, softish, white: receptacles immersed, very thin,

short and long, flexuose, confluent, rugose-crisped: scarcely any distinct, margin and disk. On the hard bark of trees.

vimalis, crust effuse, becoming cinereous; receptacles sessile, oblong, straightish, simple, tumid: disk channelled, concave: margins elevated, sub-inflexed, parallel. On bark of trees.

vulvella, Ach. receptacles elliptic, gaping in the middle.

vulgata, crust between cartilaginous and membranaceous, somewhat scaly, smoothish, greyish-white, apothecia sessile, long or roundish, waved, somewhat shining, with the disk very narrow.

notha, crust cartilaginous, lep. white, apothecia scattered, sessile, round and oval, deformed: disk flat, becoming convex.

Or'thotri'chum. Gr. *orthos*, (straight,) *trichos*, (hair.) 4.

capulatum, peristome simple, teeth with pits, capsule immersed, sub-sulcate; calyptre globe-bell-form, glabrous: stem ramose; leaves lance-ovate.

strangulatum, peristome simple; teeth 16, entire; capsule immersed, sulcate, contracted in the middle: leaves lanceolate, sub-entire, obtusish: stem cespitose, erect, sub-ramose, calyptre campanulate, with 8 furrows.

coarctatum, inner peristome 8-toothed: germ exsert at the extremities; plaited.

striatum, teeth of the inner peristome 16, lanceolate, erose: germ immersed, smooth; leaves lanceolate.

Ozo'nium. Gr. *ozos*, (a branch.) 1.

auricomum, irregular, rigid, diverging from a common centre when young; afterwards straggling: filaments tawny-yellow, compressed; sizes various. On decaying wood. 3 i.

P.

Palmelia. Lat. *palma*, (palm.) 2. l.

protuberans, frond thick, angular-lobed. Granules elliptical. ½ i.

botrioides, fronds aggregate, minute, globose. Granules globose.

cruenta, frond crust-like, crimson.

Parmelia. Gr. *parme*, (shield,) *eileo*, (to enclose.) 2. l.

scortea, thallus rotundish, sub-coriaceous, whitish, smooth, finely dotted with black: hispid beneath, lobes longish sinuate-crenate cut, apothecia rufous-brown. 1½ i.

perforata, thallus orbicular, glaucous, green, naked, with black fibres on the under side; lobes rounded, cut, flat, somewhat plaited at the edge, apothecia rufous. 3 i.

herbacea, thallus orbicular, membranaceous, bright green above, beneath pale brown, almost white and downy, lobes waved and cut, the segments rounded, subcrenate, apothecia red, the margin inflexed, rugose and crenate. 1½ i.

olivacea, thallus orbicular, olive-brown, rugged, with elevated points, paler beneath and fibrous, lobes radiating, appressed, plane, dilated, rounded and crenate, apothecia dark-brown: the margin crenulated. ½ i.

parietina, thallus orbicular, bright-yellow; beneath paler and fibrillose; the lobes radiating, appressed, plane, dilated, round, crenate and crisped at the extremity; apothecia of the same color as the crust,

their margin entire, rounded, crenate and crisped at the extremities. 2 i.

tiliacea, thallus orbicular, membranous, glaucous, ash-colored, blackish brown beneath, lobes sinuate cut, the end ones roundish crenated. Apothecia brownish with an entire edge. 6 i.

saxatilis, thallus orbicular, greyish, rough and pitted, beneath black and fibrillose; the segments imbricated, sinuated, plane, subretuse. Apothecia bright chesnut brown, their margin subcrenulated. 2½ i.

aquila, thallus orbicular, tawny brown, paler beneath with blackish fibres: the segment multipartite, nearly linear, convex, those of the circumference dilated, nearly plane and crenate, apothecia dark brown, their margin crenated. 4 i.

conspersa, thallus orbicular, greenish yellow, smooth with blackish dots, brown and fibrillose beneath: segments sinuate-lobate rounded crenate, nearly plane, apothecia central, chesnut-brown, with the margin nearly entire. 1½ i.

speciosa, thallus stellated, glabrous, greenish-white, beneath snowy-white, with greyish fibres: the segments imbricated linear plane, cut and branched crenate, their extremities ascending and powdery, apothecia central brown with a tumid singularly rough and crenated border. 2 i.

pulverulenta, thallus stellated, deep, glaucous-green, caesious and pruinose when dry, beneath black, downy and hispid: the segments linear, multifid in the circumference, plane appressed, waved retuse at the extremities, apothecia glaucous black, the margin entire and waved, at length leafy.

stellaris, thallus stellate at length rugged and granulated, greyish-green, beneath with grey fibres: the segments sublinear, rather convex cut-multifid, apothecia glaucous black, their margin entire, at length waved and crenate.

caesia, stellate, greyish-white and glaucous sorediferous, ash-colored beneath with black fibres: segments linear, cut-multifid convex but plane at extremities: fructification sub-concave black with a sub-inflexed border.

physodes, thallus substellated glaucous white: beneath brownish black: the segments sinuate, multifid, convex, glabrous, inflated and ascending at the extremity, apothecia red-brown, their margins entire.

caperata, (shield lichen. O.) frond orbicular, pale yellow, becoming green, rugose at length granulated, dark and hispid beneath; lobes plicate, sinuate-lacinate, roundish, somewhat entire: receptacles scattered, sub-frescuous: margin incurved, entire, at length pulverulent. Var. *cylisphora*, smoothish, naked; lobes gash-crenate, receptacles of the central lobes margined, elevated, small. On old timber, &c.

galbina, frond orbicular, smooth, becoming cinereous, the outer margin leaden-blue, with dark punctures: dark beneath, hispid with spongy fibres; lobes imbricate, flat, sinuate-lacinate, crenate: central receptacles concave, dark-purple, shining; margin entire. On old wood.

placarodia, frond orbicular, smooth, pale-livid, sprinkled with black elevated specks; glabrous rugose, milky beneath, with dark cinereous impressions; divisions plicate, concrete, round crisped crenate at the apex: receptacles scattered, elevated, light fuscous, somewhat

concealed by the inflexed, rugose, crenate margin. On decaying wood.

crinita, frond orbicular, from white becoming pale-glaucous, scabrous with scattered grains and corol-like branchlets; dark glabrous, a little rugose beneath, rarely fibrous; divisions rather long, sinuate-lobed at the margin and erose-crenate ciliate, obtuse at the apex.

rudiata, frond orbicular, pale cinereous, becoming green, thickly bent with corol-like opophyses of an uniform color: dirty-white, wrinkled, fibrous beneath; divisions concrete, undulate-plicate, roundish at the margins, torn-crenate, receptacles scattered, small obscurely fuscous: margin thin, at length rugose-crenate. On old wood.

sub-marginalis, frond membranaceous, smoothish, becoming cinereous; very dark beneath, becoming fuscous at the periphery: receptacles somewhat margined, concave, fuscous, wrinkled outside, margin simple. On trunks of trees.

setosa, frond stellate, becoming white glaucous: becoming ragged beneath with the dark hispid ramose interwoven fibres: divisions many-cleft, linear, separated, flat: margins here and there bearing fruit-dots; ciliae very dense and long.

michauxii, frond somewhat olive-color, a little shining; divisions convex, sinuate-lobed, dilated at the apex: receptacles chesnut-fuscous. On rocks.

congruens, frond stellate, becoming pale-white and fuscous-cinereous beneath, the fibres and impressions uniform colored: divisions many-cleft, lax, flexuose, margins recurved, flattish and crenate at the apex: receptacles elevated, concave, liver-like, margin entire. On trunks of trees.

centrifuga, frond orbicular, with greenish-white zones receding from the centre; white beneath, with fuscous-cinereous fibres; divisions concrete, convex, rugose, parted dichotomously, obtusish: receptacles with reddish-fuscous peripheries, margins sub-entire. On mountains and rocks.

diversicolor, from sub-orbicular, golden-yellow, concrete with the rugose, narrow, torn-ramose divisions, white with age; becoming white cinereous beneath, and the impressions uniform-colored: receptacles crowded, concave, dark-red; margin thick at length white.

hypoleuca, frond stellate, white, glabrous, naked: very white, soft, sub-tomentose, beneath, with hispid dark marginal fibrous; divisions linear, many-cleft, flat: receptacles scattered, sub-fuscous, at length black: margin inflexed, at length crenulate. On trunks of trees, on and among mosses.

lophyrea, frond stellate, white; dark, smooth, naked, excavated-punctate beneath: divisions linear, flat, flexuose, sinuate-many-cleft: receptacles reddish; margins sub-crenate.

granulifera, frond orbicular, white, hoary, and granular, sprinkled over with snow-white heaps of globules: glabrous, one colored beneath, fibres and impressions dark: divisions flat, many-cleft, tooth-crenate, margins naked: receptacles dark fuscous, margin inflexed granulated. Among mosses on trunks of trees.

conoplea, frond orbicular, becoming glaucous-green, here and there covered with granulated dust, becoming blue: dark with spongy fibres beneath: divisions with flattish, round-lobed, crenate, naked outer

edges; margins elevate, pulverulent, receptacles reddish-yellow. On mosses and trunks of trees.

obsessa, frond orbicular, white, beset with a corol-like excrescence; apex fuscous: dark, fibrous beneath; divisions with a separate solitary periphery, erose-many-cleft, flat: receptacles central, flat, dark-fuscous: margin granulate-toothed. On the bark of trees.

sipolia, frond stellate, becoming white-cinereous, grey and naked: white beneath with dark-fuscous fibres; divisions all sub-connate, flattish, many-cleft and lobed; receptacles dark grey-hoary. On the bark of trees.

ulothrix, frond stellate, cinereous-glaucous, sub-livid: dark fibrous beneath: divisions separated, linear, dichotomous, many-cleft, flat, sub-ciliate: receptacles dark-fuscous, margin entire, ciliate-fibrous beneath. On bark, and trunks of trees.

aristulata, frond orbicular, becoming green-glaucous; divisions very smooth, flat, periphery round, incumbent, gash-crenate: all spongy and dark beneath, sub-inflated at the apex: receptacles red: margin entire. On the roots of trees.

colpodes, frond sub-stellate, becoming pale-green: divisions many-cleft, smooth, naked, flattish, sub-inflated at the apex: dark ragged beneath: receptacles sub-fuscous; margin sub-rugose. On bark of trees.

enteromorpha, frond sub-stellate, becoming whitish-green; divisions elongated, sub-divided, effuse, lax, sub-rugose, inflated; dark, rugose-plicate beneath: receptacles liver-brown; margin entire. On trunks of pines, &c.

PELTIDE'A. Gr. *pelte*, (target or shield.) 2. 1.

venosa, thallus greenish, ash-color, white beneath, having dark brown prominent branched veins, lobes rounded, cut, somewhat entire. Apothecia marginal, plane, rounded, swelling, brown, scarcely crenulate at the margin.

scutata, thallus ash-colored, whitish and veiney beneath; the lobes rounded sinuated and cut, crenate and crisped: fertile lobules very short, apothecia orbicular, ascending, nearly plane brown, somewhat entire.

horizontalis, thallus glaucous and brownish-green-lobed, crenulate and shining, pale beneath, with numerous brown branching reticulated veins: fertile lobules abbreviated Apothecia terminal, plane horizontal, transversely oblong, reddish-brown, with a nearly entire margin.

aphthosa, thallus green, smooth, roundly lobed, sprinkled with brown warts, whitish beneath, with brown branching veins: fertile lobules, very long, contracted in the middle, their sides reflexed, Apothecia terminal, large, ascending, red-brown, with a lacerated margin.

canina, thallus greyish-green, with broad rounded lobes, white beneath with brownish branching veins: fertile lobules, rather long, with their sides reflexed, Apothecia terminal; nearly erect, revolute, reddish-brown, with a sub-crenulated border.

polydactyla, thallus glaucous, green, naked, glabrous, with brown reticulated veins beneath: fertile lobules, very numerous, elongate, and as well as the brown terminal: Apothecia cucullato-revolute.

PORI'NA. Gr. *porinos* (crumbling.) 2. 1.

pertusa, crust equal, polished, whitish, ash-colored. Warts of Apothecia sub-globose. Orifices several, depressed, black.

leioplaca, crust smooth, equal, becoming white-cinereous: warts of the receptacles sub-globose; mouths many, depressed, black. On the bark of trunks of trees. Very common.

fallax, crust sub-effuse, glabrous, plicate-rugose, olive-cinereous, warts of the receptacle crowded, irregular, depressed above, sub-margined with a sub-gibbose, flexuose, tumid periphery, mouths solitary and numerous, sub-confluent, deformed, black. On bark of trees.

papillata, crust smooth, broken-rimose, becoming white; warts of the receptacle convex: mouth elevated, solitary, papilla-like, pore, reddish-yellow, pertuse. On bark of trees.

globularis, crust thin, granulated, becoming white-cinereous, granulations crowded, white, sub-globose and branching: warts of the receptacles thinly scattered, globose, glabrous; mouth solitary, impressed, punctate, black.

PENICIL'LUM. Lat. *pencillum*, (sponge.) 1.

glaucum, densely tufted, spreading; heads of seeds at length glaucous. On rotten vegetables. 1-12 i.

PERI'OLA. Gr. *peri*, (about,) *iolos*, (hairiness.) 1.

tomentosa, round, deformed, downy-white. On potatoes.

PEZI'ZA. Lat. *pezica*, (mushroom.) 1.

1. Tremelloideae. *Substance more or less tremulous.*

inquinans, in groups, large, dark-stained, at length convex, ob-conic; rugose and brownish outside. Often grows in long series in autumn, along hewn or cut timber.

sarcoides, cespitose, fleshy-tremulous, somewhat firm in texture, flesh-red, somewhat veiny outside. In autumn, on cut decaying trunks, &c.

cinerea, in groups, small, cinereous or pale, sub-tremulous; margin whiter, sub-erect. On decaying trunks and branches, in spring and autumn.

2. Helvelloideae. *Larger, fleshy membranaceous, fragile, externally sub-furinaceous.*

aurantia, stemless, cespitose, halved-flexuose, golden-yellow, white externally. P. coccinea, Bull. In autumn on roots and decaying trunks, &c. ½ i.

umbrina, large, cespitose, contorted, brown. On sandy grass-ground, &c.

badia, almost stemless, entire, margin sub-involute, obscurely fuscous, externally somewhat olive-colored. An inch and a half broad. In autumn on the earth, on trunks, &c. in woods. 1 i.

depressa, sub-orbicular, sessile, depressed, reddish-yellow. Var. *applanata*, cinnamon color, expanded; flat and rugose above, paler beneath. In fields on the margin of rivers, &c.

acetabulum, wineglass-form, stiped; pileus angled outside: veins branching: color earth-brown-fuscous. Stipe thick, lacunose as in some species of Helvella. In shades. ½ i.

3. *Mostly small. Whole pileus strigose-hirsute, pilose, tomentose, or pubescent.*

hemispherica, in groups, pretty large, hemispheric; white-glaucous within, brown outside. Half an inch broad. In autumn on the earth, rarely on trunks.

scutellata, largish, spread flattened, reddish-yellow outside: hispid with dark diverging bristles. On wood in damp places.

coccinea, stiped, largish, turbinate or funnel-form: scarlet within, white without and somewhat downy: margin mostly crenate. In the spring on the earth and dead limbs. ½ i.

anomala, stiped, crusty-crowded, turbinate; dry crisped, ferruginous or fawn-color; mouth converging, paler. In spring and autumn on dry fallen branches. ½ i.

4. *Mostly small. Wholly glabrous (or at least not manifestly tomentose) fleshy or wax-like.*

(Pileus stiped.)

bolaris, largish, sub-solitary: pileus orbicular-funnel-form; outside often rugose-veiny and a little fibrous: stipe thick, becoming dark at the base, shortish. In autumn on dry stipes, &c.

cyathoidea, in groups, small, white or pale: pileus wineglass-form, unarmed, rather thin: stipe long, a little thicker, downwards. On the dry stems of large herbs; stipes about the fourth of an inch long. 1-6 i.

lutescens, small somewhat in groups, becoming yellow: pileus orbicular: stipe thin, cylindric. On the decaying wood of firs, &c.

pallescens, crowded, glabrous, white, at length becoming pale: pileus somewhat funnel-form: stipe rather thick. On trunks of beech, &c. ½ i.

(Pileus sessile.)

leucoloma, narrow, depressed, spread, minute; margin white, finely torn. On walls and moss in the spring.

5. *More or less coriaceous, dry, glabrous or pulverulent, mostly sessile.*

leucomela, bursting: sessile: pileus concave; dark outside and white within. Sometimes on hazel branches.

patellaria, in groups, dark, spread-flattened, sub-coriaceous, distinctly margined. On dry branches of basswood and sometimes on trunks of oak.

pinastri, scattered, sub-stiped, dark-shining; margin acute. On the bark of pines and firs, &c.

PHACIDIUM. Gr. *phakos*, (lentil,) *eidos*, (appearance.) 1.

coronatum, orbicular, sub-hemispheric, depressed, black, dehiscent, innumerous acute segments; disk pale-green or yellowish. On dead oak leaves.

PHALLUS. Gr. *phallos*, (a badge worn at the festivals of Bacchus.) 1.

impudicus, volva large: stipe cellular white; cells of the pileus contain a greenish, fetid seed, bearing slime. Fences. 8 i.

preputiosus, stipe sieve-like, sub-incurved: involucrum indusium-like; fetid. Near fences and on rotten trunks.

caninus, head closed on the stipe, ovate impervious, pink color. On rotten trunks. 4 i.

PHAS'CUM. Gr. *phaskon*, (moss.) 4.

patens, caulescent, erect: capsule about sessile: leaves lance-ovate, serrate at top, spreading.

muticum, stemless; capsule sessile: leaves ovate, without points, concave, converging.

cervicollum, sub-caulescent: the leaves of the pericheth strait: peduncle incurved: capsule ovate. On dry gravelly earth.

subulatum, caulescent, erect: leaves lance-linear, spreading; the summits, from the broadish base, subulate, rigid: capsule sub-sessile.

coherens, sub-caulescent, simple; leaves ovate, acute, nerves solid, serrulate, erect: capsules with short bristles.

PHLE'BIA. Gr. *phleps*, (a vein.) 1.

vaga, effused, soft, sulphur-color, circumference expanded and byssus-like; plaits distant irregular. On trees.

PHO'MA. Gr. *phoma*, (pustule.) 1.

populi, mostly many-celled, roundish, flat, brown-opalline, orifices obsolete. On dead poplar leaves.

PHY'SARUM. Gr. *phusa*, (bladder.) 1.

cinerium, sessile, globe-ovate, cinereous; reticulate within with white threads. On trunks in autumn.

farinaceum, stiped; bark of the fruit very thin, mealy-villose, cinereous. On pine branches, on moss, &c.

nutans, head globose, flattish beneath, bluish-grey, nodding, stipes thin, weak, white, not furrowed; seeds and filaments dark brown. On rotten wood. ½ i.

aureum, seed-covering sub-globose, yellow; stipes slender, longish, brown-grey: seeds globose. On decaying trunks. 1-12 i.

PILO'BOLUS. Gr. *pilos*, (a cap,) *ballo*, (to throw.) 1.

crystallinus, stem-like receptacle inflated upward (rarely filiform) a pointed capitular vesicle, round depressed, black. Var. *roridus*, has a globose receptacle with oblong filiform stipes; capitular vesicle dot-like black. In horse manure. ½ i.

PILO'TRICHUM. Gr. *piloo*, (to press together) *trichos* (hair.) 4.

pilotrichum, stem 2-pinnate; branches 2-ranked, pinnate: peduncles arched calyptre sub-pilose.

PISTILLA'RIA. Lat. *pistillum*, (pestle.) 1.

quisquiliaris, thickened towards the extremity, white, confluent with the stipes. On dead fern leaves. ½ i.

POLYAN'GIUM. Gr. *polus*, (many,) *aggion*, (capsule.) 1.

vitellinum, size of a grain of sand, concreted granulated seeds. On damp trunks.

POLYPO'RUS. Gr. *polus*, (many,) *poros*, (hole or pore.) False boletus. 1.

heterocletus, sessile, orange; cap imbricate, lobed, villose, pores large deformed. On the earth.

perennis, cap leathery, velvety zoned, pores minute and at length lacerated; plant cinnamon color; stipe central. On trunks of trees. 3 i.

versicolor, cap mostly reflexed, leathery villose, variegated by zones of different colors; pores round, white, short. On trees. 1 i.

reticularis, fine resembling bissus, fugaceous white; pores distant cup-form, powdery. On pine wood. 2 i.

POLYSIPHO'NIA. Gr. *polus*, (many) *siphon*, (siphon.) 2.

coccinea, filaments very much branched. Primary, not jointed. Branches decompound pinnatifid. Pinnules heterogenous multifid fascicled. 4 i.

nigrescens, filaments much branched, at the end diffuse. Lower articulations very short, when dry nodulose: upper about as long as broad with 3 veins. 6 i.

POLYTHRIN'CIUM. Gr. *polus*, (many,) *thrigkos*, (little partitions.) 1.

trifolii, appears to the eye as numerous black dots of unequal size; but each is a tuft of filaments; the filaments are moniliform, clavate. On clover leaves.

POL'YTRI'CHUM. Gr. *polus* (many) *trichos* (hair.) 4.

1. *Capsules with apophyses.*

juniperinum, (hair-cap moss. O. M. 2[.) stem generally simple: leaves lance-liner, entire, flattish, somewhat spreading: the apophyses depressed. In dry woods, &c.

piliferum, stem simple: leaves lanceolate, entire, bearing hairs at the apex: apophysis depressed. In dry sunny places.

perigonale, simple, largish: leaves serrate; those of the pericheth differing, elongated, membranaceous, ending in a capillary form: capsule 4-sided; lid orbicular, with a short apex in the centre. Apophysis under the capsule.

2. *Capsules without apophysis.*

capillare, stem short, simple: leaves few, laxish, linear, aculeate-serrate: peduncles longish, capillary: capsule erect, sub-ovate; lid convex: abrubtly-mucronate, slender, longish.

brachyphyllum, stemless: leaves conglobate at the root, very short, oblong-oval, apex obtuse and thickish: capsules sub-corneous, obovate, sub-oblong; lid with a short apex.

brevicaule, stemless: leaves very few, lower ones close-pressed, dilated into an oblong form, upper ones mucronate-subulate, obscurely denticulate: capsule erect, oblong-cylindric; lid convex, long-mucronate, inclined.

PORPHYRA. Gr. *porphuros*, (purple.) 2 i. 2.

laciniata, frond flat with numerous dilated segments.

PTE'RIGOPHYL'LUM. Gr. *pteris*, (wing) *phullon* (leaf.) 4.

rigidum, stem erect, pinnate above: leaves sub-2 ranked, obovate, mucronate, serrate, 2-nerved.

PTE'RIGYNAN'DRUM. Gr. *pteris*, (wing) *gune* (pistil.) 4.

intricatum, creeping and rooting entangled: branches simple, short: leaves concave, acuminate, lanceolate, lengthened out: capsule oblong-ovate; lid sub-oblique. On trunks of trees.

julaceum, stem erect, terete: leaves thick-imbricate, oval acuminate, smooth: peduncles scarcely projecting out of the long pericheth; capsules short-ovate; lid conic: calyptre glabrous. On trunks of trees.

trachycladon, stem creeping: branches very short, crowded, erect, simple, terete, scutish: leaves lance-ovate, acuminate, nerveless: capsules erect, sub-cylindric with a long conic, sub-oblique lid.

hirtellum, branchlets slender-filiform, simple, short: leaves imbricated in a cylinder, sub-cordate, a little hirsute, fringed: capsule oblong; lid long-conic. On trees.

sub-capillatum, creeping, rarely rising, simple, flower-bearing: leaves ovate-acuminate with a halved prolongation, imbricate: capsule oblong: lid beaked: calyptre sub-pilose.

PTILO'TA. Gr. *ptilotos*, (pinnate or pinnatifid.) 2.

plumosa, jugament filiform compressed. Pinnules opposite pectinate-cut. 4 i.

PUCCIN'IA. Gr. *puka*, (close-packed.) Blight. 1.

rubi, deep-black tufted; seeds 4-celled obtuse-mucronate: stipes slender condensed at the base. Under bramble leaves.

avicular, punctiform, minutely tufted, roundish, black-brown; seeds crowded, obtusely ovate with a long flexuose, filiform pedicel. On knot-grass.

polygoni, minute, round, crowded, brownish-red: upper cell of the seed thick globose; the lower one long and narrow; stipes short. On the P. amphibium, under the leaves.

variabilis, in minute tufts, black, nearly circular, bordered by the remains of the old cuticle; seeds variable; stipes short.

graminis, tufts dense, oblong, often confluent, forming long parallel lines in the direction of grassy fibres; color yellowish-brown, becoming black: seeds elongated with the upper cell shortest, containing dust; stipes filiform. On wheat and other grasses. Called rust or blight.

globosa, minute, scattered, blackish: seeds globose with filiform slender stipes. On bean leaves.

PYRE'NULA. Gr. *puron*, (kernel.) 2. l.

nitida, crust cartilaginous, membranous polished, pale, brownish cinereous. Warts of apothecia closed closely surrounding the upper projecting part of the thalamium. 1½ i.

umbonota, crust tartareous, regular, finely cracked, cinereous, rufous. Warts of apothecia, smooth, reddish, depressed above, forming a margin to the papilla-like prominent orifice. 1½ i.

R.

RACO'DIUM. Gr. *rakos*, (a rag.) 1.

cellare, soft, lax, interwoven, of a greenish-black, filaments intermixed with irregular granules. In sooty cellars.

rupestre, compact, black, adnate to rocks.

xylostroma, very broad, soft, ochre-yellow, spreading among the cleavages of decaying wood. Oak-leather, spunk, tinder.

papyraceum, white thin paper-like. Paper-spunk. Spreading among the cleavages of decaying wood.

RAMALI'NA.) Lat. *ramalina*, (a little branch.) Many branches. 2. l.

fraxinea, thallus plane, linear-laciniated, greyish-white, glabrous, but rugose and pitted, sub-reticulated: the ultimate branches attenuated, apothecia mostly marginal, plane, pale, flesh-colored.

fastigiata, thallus compressed, glabrous, pitted, branched, glaucous, white, branches thickened and fastigiated upwards, apothecia numerous, terminal peltate, subsessile, white.

farinacea, thallus compressed, glabrous, somewhat pitted, bearing pow

dery warts, rigid branched, greyish or greenish-white. Branches linear attenuated, apothecia scattered on short stalks, plane, somewhat margined, whitish.

pollinaria, thallus flat, somewhat membranous, smooth, a little pitted, white, torn, occasionally powdery, with dilated, flat soredia, apothecia nearly terminal, very large.

homolea, frond compressed, 2-edged, smooth, naked, ramose, becoming pale-white, sub-ramose crosswise: branches dichotomous attenuated: receptacles scattered, affixed at the centre, a little concave, somewhat margined, uniform-colored.

polymorpha, frond flat-compressed or teretish, torn-branched, pale, longitudinally lacunose: fruit-dots scattered, sub-elliptic and terminal, head-form: receptacles sub-marginal, a little concave; disk fleshy, somewhat hoary. On rocks and stones.

RHIZOPO'GON. Gr. *riza*, (root,) *pogon*, (beard.) 1.

albus, round, sub-rugose, whitish-brown, fibrous at the base. Roadsides. ½ i.

RHODOME'LA. Gr. *rodos*, (red,) *melos*, (a limb.) 2.

dentata, frond flat, obsoletely ribbed, alternately bipinnatifid. Pinnae linear cuneate. Pinnules cut. Thecae urceolate. 4 i.

lycopodioides, stem filiform, covered with setaceous, densely imbricated scale-like processes. 6 i.

RHYTIS'MA. Gr. *rutis*, (wrinkle.) 1.

corrugatum, minute, innate on the surface, rugose plaited; opening with many zigzag cracks. On lichens.

RICCIA. In honor of Ricci, a botanist of Florence. 4.

natans, (floating liverwort. O. Ju.) fronds obcordate, with apexes meeting so as to form the sectors of circles, flat: radicles beneath flat. It floats on the water, with its short flat roots extending a little distance into it. Color sea-green. Each congeries of floating fronds hardly an inch in diameter. Channels run on their backs, like midribs in leaves. ½ i. by ¼.

fluitans, (forkstems. O. J.) fronds repeatedly forked, linear, convex or sub-cylindric, smooth, reticulate, obtuse and cloven at the tips. Very plenty from Lake Superior to Boston in water, among lemna. It is pellucid and cellular, 2 or 3 inches long. It has nothing resembling a root; but the whole plant appears rather like the stems of some plants.

glauca, frond radiating from a centre, dichotomous, flat, reticulate. ½ to 1 i.

lutescens, Sz. frond di- or trichotomous, thick at the apex, inflexed and bifid at the margin; lobes at the margin free, the middle nerve with radicles impressed above, convex beneath, substance porous, standing out from tubercles filled within with minute granulations. In dried swamps, forming yellow patches two inches in diameter. On the earth, largish, orbicular and confluent. Is this an American species?

RIVULA'RIA. Lat. *rivulus*, (a brook.) 2.

atra, frond hemispherical hard. Filaments very dense, branched by apposition. 1-12 i.

angulosa, frond globose, hollow. Filaments simple. ¼ i.

ROCCEL'LA. Portuguese *rocchá*, (a little rock; its place of growth.) 2. 1.

tinctoria, thallus rounded, glaucous, green, somewhat branched, nearly erect, apothecia scattered, elevated: disk flat, caesious, pruinose, as broad as the border.

RUBI'GO Lat. *rubigo*, (rust, blight, mildew.) 1.

alnea, irregularly tufted, confluent, whitish, at length reddish-brown. Under alder leaves, &c.

S.

SCHISTID'IUM. Gr. *schistos*, (split.) 4.

ciliatum, stem ramose: leaves lance-ovate, concave, denticulate, calyptre, very long.

SCHIZOPHYL'LUM. Gr. *schizo*, (to cut,) *phullon*, (a leaf.) 1.

commune, cut or torn in appearance, gregareous. On trunks of living trees. 2 i.

SCLERODER'MA. Gr. *skleros*, (hard,) *derma*, (skin.) Bark puff-ball. 1.

citrinum, middle-sized, roundish, long-rooted, pale-lemon, obsoletely scaly, scales thickish. On oak roots. 2 i.

cepa, globose, sub-depressed, firm, smooth or warty, sessile; stipe short, thick; scarcely any root. In cultivated fields. 2 i.

spadiceum, gregarious, somewhat spotted, smooth, brown, root hard fibrous. On beech trunks, &c. 1 i.

SCLEROTIUM. Gr. *skleros*, (hard.) Dwarf puff-ball. 1.

semen, separate, spherical, whitish-yellow, becoming black and wrinkled, white inside; sometimes clustered. On dead leaves. ½ i.

sentellatum, orbicular, flattened, at length somewhat concave in the middle, fixed beneath by a central filamentous point. On leaves of trees, underside.

durum, deep black, oval or elongated, at length sub-striate or rugose white within. On dead herbaceous stems.

SCYTONE'MA. Gr. *skutos*, (leather,) *nema*, (thread.) 2.

byssoideum, filaments simple, erect, very short, flexuose-crisped, entangled in a black layer. 1 i.

SCYTOSI'PHON. Gr. *skutos*, (leather,) *siphon*, (siphon.) 2.

filum, frond quite simple. 240 i.

SEPEDO'NIUM. Gr. *sepedon*, (putrescence.) 1.

mycophilum, spreading widely within putrefying agaries and boletuses; filaments white; seeds profuse, orange-yellow. On dying fungi.

SEPTA'RIA. Lat. *septum*, (partition.) 1.

ulmi, spherules aggregated; seeds 3 or 4 times divided: tendril often becoming effused. On elm leaves.

SISTOTRE'MA. Gr. *sunestemi*, (to compound,) *trema*, (pore.) 1.

confluens, pores in regular series, gregarious becoming concrete, fragile, scentless, white becoming yellow. On road sides. 1 i.

cinereum, imbricate, suberose: pileus halved, hirsute, cinereous beneath. On trunks of trees.

violaceum, halved, imbricate, tomentose, white becoming violet beneath. On trees.

quercinum, glabrous, pale, reddish-yellow: teeth thick, deformed, gashed, sub-close-pressed. On oak branches.

cerasi, small, orbicular, gibbose, pale, downy at the margin; teeth various, thick, close-pressed. On branches and roots.

SOLE'NIA. Gr. *solen* (a tube.) 2.

intestinalis, frond tubular inflated simple. 24 i.

SOLORI'NA. Gr. *solos*, (solid) *rinos* (rind, skin.) 2.

crocea, thallus green, (brown when dry,) lobed, beneath veiny, and of a fine saffron color, Apothecia somewhat tomentose brown. 1½ i.

SPATULA'RIA. Lat. *spatula*, (plaster-knife.) 1.

flavida, pilens pale becoming yellowish; stipe pale. On dead leaves. 1½ i.

SPHACELLA'RIA. Gr. *sphakelos* (mortification.) 2.

racemosa, filiments twice or thrice dichotom. Articulations as long as broad. Tubercles ovate, racemose, on branched peduncles. 1 i.

radicans, filaments branched, rooting, straight. Branches scattered, simple erect obtuse, tapering at the base. Articulations twice as broad as long. ½ i.

cirrhosa, filaments much branched five striated. Branches alternate somewhat pinnated. Articulations as long as broad. 1 i.

SPHAE'RIA. Gr. *sphaira*, (globe.) 1.

1. *Caulescent, or the receptacle elongated, clavate, corky, furnished with a trunk.*

bulbosa, (globule fungus. S.) on the earth, sub-ramose, glabrous, dark-cinereous: root tuberous. On the earth in autumn in pine woods.

hypoxylon, gregarious, ramose, compressed, hirsute at the base. On decaying trunks of trees.

digitata, cespitose, black; stipes glabrous, connate at the base, clavate, terete: apex acuminate, sterile. In woods.

polymorpha, gregarious, forms various; clavules (little clubs) ventricose, surrounded every where with spherules. In beech woods. On trunks of trees.

2. *Receptacle without a stem, roundish and opening; tuberculate with bordering spherules.*

concentrica, obovate and somewhat roundish, large: interrupted with concentric layers within. On trunks of the ash and willow.

rubiformis, large, wholly black; spherules globose, a little prominent. On dry trunks.

fragiformis, gregarious, sub-confluent, rust-colored, dark-shining within: spherules papillose. On beech trunks.

argillacea, scattered, sub-globose, clay-colored, or yellow-cinereous; spherules a little prominent, papillose; substance softish, becoming sooty-yellow. On trunks of ash trees.

rubiginosa, opening widely, rugose, yellow, becoming rust-colored; spherules somewhat concealed. On branches in shady places.

cohaerens, gregarious, confluent, flattish: at first dirty-yellow, smooth; at length dark-colored and somewhat blistered. Adhering to the trunks of trees, particularly the beech.

melogramma, somewhat in rows, bursting, obconic, dark-sooty; spherules somewhat prominent. Bursting from under the cuticle of branches of trees, particularly the beech.

ribesia, bursting, soft, oval, sub-depressed; spherules dissected, growing white. Bursting from under the cuticle of the branches of the ribes rubrum in the winter.

3. *Form various, opening, orbicular or round; spherules scattered, horizontal, immersed in fleshy coverings; little mouths scattered, mostly somewhat prominent, papillose or aculeate. Compound.*

deusta, opening widely, thick, undulate-rugose, blistered; at first fleshy, white-cinereous, pulverulent; at length black, rigid. On trunks in woods, frequent.

lenta, aggregated, sub-orbicular, black; disk gibbose, margin repand. On the trunks and roots of fallen beech trees; found in autumn.

insitiva, compound, cortical, flat, linear-acuminate, white, single-headed; a veil connate with the substance of the fungus; spherules papillose, black. In the fissures of the cuticle on decaying grape vines.

macula, compound, of various forms, very flat, black, single-headed: spherules globose-acuminate, covered with a fugaceous veil. On dry oaken branches after long storms.

serpens, open, unequal, naked, becoming dark-coloured; spherules somewhat prominent. On oak and beech wood, sometimes on willow.

stigma, opening around, smooth, rimose; little mouths immersed, flattish. In the fissures of thorn trees.

podoides, crowded together, hard, unequal; little mouths spinose, mostly bursting at the sides. On trunks of oak.

ceratosperma, roundish, convex, scattered, little mouths spinose, bursting from the middle. In the bark of the Rosa canina in July.

disciformis, scattered, orbicular, flattish, smooth; little mouths immersed, resembling punctures. In the dry cracks of beech, resembling pimples of a dark shining color, white-cinereous within.

4. *Opening, spherules horizontal, at first solitary at the margin, afterwards confluent, not joined with a fleshy substance or manifest layers; some are distant, but in some way connected by the crust.*

nebulosa, grey; spherules very minute, scattered, forming unequally linear interrupted dark-grey spots; little mouths prominent, subacute. On the stems of large herbaceous plants.

velata, covering very broad; spherules scattered, immersed, covered with a sub-membranous crust: little mouths sub-prominent. Under the cuticle of the Tilia.

spiculosa, somewhat opening, dark-stained; little mouths long terete, very slender. Immersed in dark colored branches.

5. *Spherules heaped together on the receptacle, which is crust-like, conic, in little cespitose bunches; little mouths converging towards the middle.*

ciliata, roundish; spherules nested in the prominent substance of the bark; little mouths very long, divaricate, sub-flaccid. On the branches of elms.

fimbriata, upon leaves sub-circinal; little mouths spinose, clavate, surrounded at the base by a white fringe. Frequent on the leaves of the Carpinus.

nivea, conic, with a white farinaceous disk: little mouths prominent, papillose. On the dry branches of poplars.

leucostoma, disk truncate, white, perforated with blackening pores. On the stems and dry branches of plum trees and cherry trees of our orchards.

pustulata, sub-lenticular, with short contracted necks; disk sooty, perforated with one pore. On willow branches.

6. *Spherules arranged in a circle, decumbent, naked, nesting under the epidermis; little mouths approximate, mostly bursting.*

pulchella, compassed about, naked; little mouths very long, flexuose. Under the cuticle of the branches of the common garden cherry tree.

coronata, compassed about; little mouths thick, obtuse, smooth. On the branches of the thorn tree, rare.

fagínea, compassed about; little mouths hooked and rugged. On the branches of the beech.

convergens, compassed about, concealed, naked; spherules ovate, erectish; little mouths strait, somewhat bursting. Nesting in the substance of the bark of some branches.

tessella, compassed about, bound with a black line; little mouths distant, or with 4 or 5 black punctures. On willow branches.

7. *Bursting, in a roundish cespitose bunch; spherules free among themselves; papilla-like, setting on the receptacle.*

decolorans, cespitose, reddish cinnabar color, becoming pale; spherules globose, rugose tubercled. On the branches of maple and elder.

coccinea, cespitose, pale red; spherules ovate, smooth. In the dry bark of beech and elder.

8. *Spherules solitary, free, destitute of receptacles.*

(Little mouths very large, mostly compressed, nearly equalling the breadth of the spherule.)

episphaeria, simple, gregarious, parasitic, red; spherules very minute, sub-compressed, crested, flaccid. On the Sphaeria stigma.

(Little mouths terete, spinose, equal to the length of the spherules or exceeding them.)

rostrata, simple, naked: spherules granulated; little mouths very long, spinose. On decaying branches in July.

acuta, gregarious, naked; spherules black, shining, sub-globose; little mouths spinose, thickish, cylindric. On the stem of the common nettle in the spring.

(Little mouths shorter than the spherules, conic or cylindric, mostly papillose.)

porphyrogona, simple, aggregated, black, phial-form, imbedded in a thin violet-colored crust. Persoon considers this species of Tode, as a variety of *rubella*. On the Atropa belladonna.

araneosa, simple, opake, black; spherules papillose, smooth, covered with a thin white veil. On dry branches.

byssiseda, largish; spherules globe-papillose, surrounded with thick sooty yellow down. On dry branches and bark.

spermoides, heaped together, opake, rigid; spherules globose, sub-terete downwards; little mouths papillose, obsolete. On dry trunks of trees.

bombarda, simple, fascicled, becoming sooty-yellow; spherules elongated, sub-ventricose; little mouths are acute papillae. Grow in heaps on decaying trunks of trees.

lingam, simple scattered, sub-oval, depressed-concave, rugose with folds; little mouths irregular, decumbent, or almost wanting. Grow densely on the dry stems of red cabbage.

herbarum, simple; spherules scattered, smooth, mostly sub-depressed; little mouths papillose. On dry stems of herbaceous plants.

pertusa, scattered; spherules immersed, ovate, hardish, sub-rugose; perforated at length with little caducous obsolete mouths. In hard dry wood.

inquinans, simple, scattered, dark-stained; spherules somewhat prominent, with wood, perforated. On the Acer, Lonicera and Xylosteum.

(Spherules not furnished with visible mouths.)

pulvis-pyrius, simple, heaped together; spherules ovate and roundish, tubercled, rugose, furrowed in the middle. On trunks and dry wood.

moriformis, gregarious, simple; spherules tuberculate, obovate. On dry trunks, particularly of pines.

maculiformis, on leaves, simple; spherules sub-immersed, minute, roundish, conglomerate in unequal black spots. On the dry leaves of beech hazle, maple and elm.

SPHAERO'BOLUS. Gr. *sphaira* (globe) *ballo* (to throw.) 3.

stellatus, globose, pale-yellow; orifice regular stellate, toothed. On wood, &c.

SPHAEROCAR'PUS. Gr. *sphaira* (a sphere) *karpos* (fruit.) s.

terrestres, frond simple ovate. Thecae pyriform, clustered at the base of the frond. ½ i.

SPHAEROCOC'CUS. Gr. *sphairo* (a sphere) *kokkos* (seed.) 2.

ruber, stem scarcely any. Laminae chained, obsoletely ribbed, cuneate 2-forked or lanceolate. Thecae rugose sessile in the disk of the frond. 4 i.

membranifolius, stem filiform dichotom. Branches expanded in cuneiform multifid laminae. Thecae stalked ovate cauline. 6 i.

laciniatus, frond, cartilaginous, membranaceous, dichotomous or palmate. Segments obtuse, somewhat proliferous. Thecae immersed in minute unequal processes. 3 i.

SPHAERONAE'MA. Gr. *sphaira*, (globe) *naima* (gum.)

subulata, fruit-covering cone-subulate acute yellowish sub-pellucid: globule pale. On toadstools, &c. 1-2 i.

SPHAEROPH'ORON. Gr. *sphaira* (sphere) *phero* (to bear.) 2. l.

coralloides, thallus palish-brown, branches lateral, elongate, lax, divaricate and forked, acuminate. Apothecia sub-globose, smooth.

compressum, thallus white, branched; branches compressed ramulose, sub-fibrillose, naked. Apothecia sub-globose, depressed and smooth above.

SPHAG'NUM. Pliny's name for moss. 4.

latifolium, (peet moss. O.) leaves ovate, sub-obtuse, concave, imbricate, converging at the apex: capsules spherical.

acutifolium, stem sub-ramose, branches filiform: leaves lance-ovate, revolute, erose at the truncate apex; imbricated 5-ways.

cuspidatum, stem flaccid; branchlets lax, bristle-form: leaves lanceolate involute, truncate-erose, lax.

SPILO'MA. Gr. *spilo'ma* (spot, stain.) 2. l.

versicolor, crust somewhat cartilaginous, powdery, cracked, variegated with cinereous and yellow. Apothecia immersed, superficial, roundish, finally confluent. 3 i.

melaleuca, (efflorescent lichen) crust thin, sub-membranaceous, unequal, sub pulveruleut, white: receptacles deformed, a little convex, scabrous, dark. On bark of trees.

SPLACH'NUM. Gr. *splagchnon* (moss.) 4.

ampullaceum. (umbrella moss;) leaves lance-ovate, acute; apophysis purplish-green, broad, inversely bladder-form.

setaceum, stem cohering: leaves lanceolate, gradually becoming setaceous-acuminate: apophysis clavate-turbinate. Marshes, &c.

SPORIDER'MIUM. Gr. *sporos* (seed) *derma* (skin.) 1.

atrum, black, crowded; filaments linear-oblong, 4 or 5 times divided. On herbs.

SPOROCH'NUS. Gr. *spora* (seed) *chnoos* (down, lock of hair.) 2.

pedunculatus, receptacle elliptical lateral as long as peduncle. 6 i.

SPORO'TRICHUM. Gr. *spora* (seed) *thrix* (hair.) 1.

macrosporum, a dusty hoariness interspersed with minute tufts: filaments few and branched. On apple leaves.

sulphureum, yellow irregular tufts: filaments entangled: seeds numerous sub-globose. On casks in cellars.

SPUMA'RIA. Lat. *spuma* (froth.) 1.

alba, effused, frothy; fruit-covering furnished internally with grey horn-like processes inclosing brown seeds. On rotten grass and wood. 1 i.

STACHYLID'IUM. Gr. *stachos* (a spike) *eidos* (appearance.) 1.

candidum, filaments branched, erect, remotely jointed, scattered, white, seed globular. On dead wood.

STEMONI'TIS. Gr. *stemon* (stamen.) 1.

typhina, scattered, small; fibrous, cylindric, obtuse, sub-incurved subevanescent. On trunks.

lencostyla, gregarious, creeping; fruit ovate, violet; stipe white. All white at first: in autumn on leaves and branches.

fasciculata, crowded, cylindric, stipes black arising from a shining underlaying membrane: fruit-covering fugaceous dark-brown: stipes continued to the summit of the fruit-covering. On rotten wood. ½ i.

papillata, dark-brown globose, with stipes perforating the pileus to the summit. On rotten wood. ½ i.

STEREOCAU'LON. Gr. *stereos* (hard) *kaulon* (stem.) 2. l.

paschale, thallus greyish branches and rough, with granulated excrescences, branches crowded and very much divided, apothecia scattered and terminal at length, convex, conglomerate, blackish-brown.

ramulosum, becoming pale-white ramose, scabrous, fibrous, branches scattered, elongated, sub-simple: receptacles terminal, at length subglobose, dark-fuscous. On mountains.

STIC'TA. Gr. *sticktos* (dotted.) 2. l.

crocata, thallus dark, glaucous, brown, pitted, with broad, rounded, spreading entire lobes, having bright lemon colored powdery spots upon the margin and on the elevated parts between the pits; downy and tawny.

serrata, S. frond pinnate, round-lobed, nearly even, light brown-rust colour, scarcely glaucous; margin wavy, with gold-coloured powder; brown beneath, with a few small yellow-pits. Found in Western, Mass. by Dr. Porter. Circular, 4 i. diam.

pulmonacea, thallus, pitted and reticulated, olivaceous downy beneath smooth with prominences: the segments sinuate-lobate, truncated, apothecia sub-marginal, plane, reddish: their margin rugose.

sylvatica, thallus wide, rusty-brown, naked and pitted; brown and downy beneath, with small, pale, excavations; segments lobed and obtusely cut, unequal. apothecia marginal, dark brown.

anthrapsis, frond pale-cinereous fuscous, lacunose-reticulate, very broad, sub-crenate in the round lobed periphery: rugose, sub-villose beneath: fruit dots, white: receptacles scattered: disk black, at length convex, and excluding the entire frond-like margin.

STILBOSPO'RA. Gr. *stilbo* (to shine) *sporos* (seed). 1.

asterosperma, capsule stellate.

macrosperma, capsules elongated, cylindric. On the limbs of beech and birch.

profusa, in heaps: seeds very minute, equally 2-celled. On branches of maple, button wood, &c.

STIL'BUM. Gr. *stilbos*, (shining.) 1.

vulgare, head roundish, whitish; watery or gelatinous, becoming firm and yellowish: stipes thickish cylindric. On decayed stems.

STIC'TIS. Gr. *stiktos* (a dot) 1.

radiata, immersed, orbicular, radiated; limb snow white, ragged, pulverulent. On bark of trees, in circular spots.

STACHYLI'DIUM. Gr. *stachos*, (a spike) *eidos* (appearance.)

candium, filaments branched erect, remotely jointed, scattered, white seed globules. On dead wood.

SYNTRI'CHIA. Gr. *sun* (together) *trichos* (hair.) 4.

ruralis, stem ramose: leaves obtuse recurved with hairs at the apex. On walls.

T.

TARGIO'NIA. In honor of Targioni, a botanist of Florence. 3.

hypophylla, frond flat imbricated lobed. Lobes rounded retuse. ½ i.

TET'RAPHIS. Gr. *tetra* (four.) 4.

pellucida, stem elongated; leaves ovate-acuminate: those of the perichæth lanceolate; capsules cylindric.

THAMNID'IUM. Gr. *thamnos* (rod or twig.) 1.

elegans, filaments branched, whorled: seed-covering elevated. On manure. 1-12 i.

THELE'BOLUS. Gr. *thele* (nipple) *ballo* (to throw.) 1.

stercoreus, sub-globose, saffron-color, gregarious, sessile, On manure. 1-12 i.

THELE'PHORA. Gr. *thele* (a nipple) *phero* (to bear.) 1.

1. *Pileus entire, funnel-form.*

caryophyllea, various: pileus funnel-form, thin, becoming fuscous-purple, strigose-hirsute: margin mostly gashed, or somewhat crisped. Among pines, &c. on the earth. 1½ i,

2. *Pileus halved, at length horizontal.*

rubiginosa, imbricate, rigid, reddish-chesnut-brown, glabrous both sides: papillae large, scattered. On trunks of oaks, mossy beeches, &c. 2 i.

TRENTEPOH'LIA. Named after an obscure German botanist. 2.

purpurea, filaments dichotomous, cespitose, entangled very minute; articulations about twice as long as broad. 1-12 i.

aurea, filaments flexuose, collected in a dense soft cushion-like tuft; 1-12 i. Branch long, spreading, rig. Articulations about twice as long as broad.

TRI'CHIA. Gr. *trichos*, of *thrix*, (hair.) Pin-heads. 1.

1. *Fruit turbinate or pear-form.*

botrytis, stiped, fascicled, opake, becoming dark red; stipes elongated, connate, sub-racemed. On decaying trunks in autumn.

rubiformis, stiped, fascicled, steel-color, shining; stipes connate, sub-pedate, short. On trunks in woods at the close of summer.

fallax, simple, stiped, at first red, then slate-color; fruit plicate beneath with a stipe. On trunks and soft decaying wood in autumn.

vulgaris, scattered, fruit from terete becoming sub-turbinate: hardly any stipe, becoming black. On beech trunks after a summer storm. A variety of *nigripes*. See Persoon's Fungi, p. 179, and Muhlenberg's Catalogue.

ovata, crowded, obovate, ochre yellow, bursting at the summit. On rotten wood.

2. *Fruit round or reniform.*

nitens, crowded together, sessile, round, shining yellow or cinnamon color. Among decaying beech and pine trunks in autumn.

varia, scattered, becoming yellow: fruit decumbent and reniform, sometimes round. On trunks.

3. *Fruit filiform and net-veined.*

reticulata, diffused, reticulate, ramose, yellow. On trunks and mossy bark in autumn.

TRICHODER'MA. Gr. *trichos*, (hair,) *derma*, (skin.) 1.

viride, in roundish tufts of white interwoven filaments: seed profuse, green, at length giving the whole a green color. On rotten wood.

nigrescens, somewhat opening, flattish: seed-dust becoming black and sooty. On maple trunks, cut down in winter or spring.

TRICHOS'TOMUM. Gr. *trichos*, of *thrix*, (hair,) *stoma*, (mouth.) 4.

pallidum, (hair mouth moss,) stem simple, very short: leaves capillary, sheathing; capsule ovate, with a slight apophysis, cylindric: lid conic, calyptre halved.

TRICHOTHE'CIUM. Gr. *trichos*, (hair,) *theca*, (sheath.) 1.

roseum, with tufts at first distinct and at length confluent in some cases; filaments white: seeds pink, oval, numerous. On rotten wood.

TU'BER, Lat. *tuber*, (puff ball, truffle.) 1.

cibarium, very rough, with blackish warts. Under ground. Eatable. 1½ i.

albidum, very rough with whitish warts. Under ground. ½ i.

TULOS'TOMA. Gr. *tulos*, (a wart,) *stoma*, (mouth.) 1.

brumale, stipe smoothish: fruit-covering globose; orifice flat. In pastures, meadows, and on walls. 1 i.

Ty'phula. Lat. *typha*, (cat-tail plant.) 1.

placorhiza, filiform, elongated, white, sub-villose at the base, with a dark fuscous lenticular tuberous knob. In woods. 2 i.

erythropus, gregarious; fruit-bed smooth, white, shorter than other species, terminating in an elongated, filiform, dark-red stipe. On sticks and leaves. ½ i.

U.

Ulo'ta. Gr. *ulotomos*; (wood-like.) 4.

crispa, stem ramose: leaves lance-linear, recurved-rendulate when dry; pedicels elongated. On trunks of trees.

Ul'va. Gr. *ulini*, (parings of hides.) 2.

bullosa, frond obovate, slippery, sinuous, blistered, finally expanded. 6 i.

spadicea, imbricate, sub-rigid, zoned, sub-tomentose, fuscous; glabrous beneath, pale-fuscous.

ferruginea, effuse reflexed, ferruginous: pileus thin, sub-tomentose, smoothish, pilose beneath. On fallen limbs of trees, &c.

hirsuta, cespitose, coriaceous, yellowish, strigose-hirsute: glabrous beneath. On trunks, rails, &c. 3 i.

lilacina, sub-imbricate, soft not zoned, tomentose pale: at the margin and on the under side pale-purple. On trunks of evergreens. 1 ½ i.

3. *Resupinate, effuse, papillose, substance various.*

(Pale or flesh-colored.)

pannosa, corky, pale; cap depressed, scaly beneath, smooth, sub-pilose. On the ground. 2 i.

quercina, resupinate, longitudinal, coriaceous, rugose, somewhat fleshy; almost destitute of a margin, and brown underneath. On oak branches, &c. 6 i.

polygonia, fleshy papillae largish, many-sided. On dry branches of poplar.

laevis, white-fleshy, broadly effuse, very smooth; margin byssus-like. On branches of poplar, &c.

rosea, somewhat wrinkled, rose-red; margin tomentose. On poplars, one or two inches long.

(Corol yellow or tan-color.)

palmata, erect, brown-purple: branches compressed, palmate folded, paler at the summit. 2 i.

frustulata, very hard, smooth, rimose-parted, pale.

Thelotre'ma. Gr. *thele*, (nipple,) *trema*, (an orifice.) 2. l.

hymenium, crust cartilaginous uneven, somewhat polished, greenish-grey, at length extremely tumid and uneven, apothecia elevated, crowded, hollow, very irregular. 4 i.

Tim'mia. In honor of Timm of Malchin. 4.

cucullata, leaves linear, narrow-acute, serrulate: capsule nodding.

To'RULA. Lat. *torus* (bed.) 1.

herbarum, filaments densely crowded so as to form a thick black bed or crust. On dead stems.

TREMAT'ODON. Gr. *tremo* (to tremble,) *odonta* (tooth.) 4.

longicollis, stem short, simple: peduncles very long, twisted.

TREMEL'LA. Lat. *tremulus* (trembling.) 1.

mesenterica, roundish: sub-compact, undulate, plicate, orange-color. On fallen limbs, &c. 2 i.

fragiformis, roundish: sub-compact, round, red, plicate, thick-set, sub-lobate. On pine bark, &c.

spiculosa, flattened, effuse, thickish, black, having conic papillae. 2 or 3 inches, on trunks.

foliacea, large, cespitose, glabrous both sides, thin undulate-plicate, concave, crisped at the base, flesh-cinnamon color. On decaying trunks in autumn.

undulata, ascending, membranaceous, lobed, sinuate-undulate, purple. On putrid wood.

abietina, in groups, roundish, orange color, sub-plicate. On wood.

dubia, cespitose, viscous, fastigiate, soft, fleshy. On decaying trunks late in autumn.

intumescens, sessile, clustered, tumid, plaited, a shining brown: lobes twisted. On trunks of trees. 2 i.

sarcoides, sessile, gelatinous, red purple: at first, club-form, then round-lobed, plaited or curled, finally blackish. On rotten wood. ½ i.

URCEOLA'RIA. Lat. *urceola*, (a little pitcher.) 2. l.

gagii, crust continued, calcareous, smooth, brownish-white, irregularly cracked when dry, apothecia very minute, blackish, sunk in the crust. 1½ i.

calcarea, crust determined, finely cracked, somewhat powdery, very white, becoming cinereous: disk minute, concave, black, powdered with white, border prominent discoid, thin. 1½ i.

amurga, (pitcher-shield lichen. P.) effuse, granular-warty, pure white:

URE'DO. Lat. *uredo*, (blasting.) Rust fungus. 1.

1. *Seminal dust rusty-yellow.*

rosae-centifoliae, (rose-rust,) crowded, yellow, flat opening; little heaps orbicular. On rose leaves.

linearis, (yellow grain-rust. J. ☉.) linear, very long: stained yellow, at length but obscurely colored. On the culms and leaves of barley, oats, rye, wheat, &c.

2. *Seminal dust white.*

candida, (white rust,) white, opening. On shepherds purse, &c.

3. *Seminal dust blackish-yellow. On the fructification.*

segetum, (smut J.) dust black, copious; on spikes and glumes of grain.

caricis, dust black, naked, surrounding the capsules. On carexes. Grass smut.

US'NEA. Lat. *ustionis*, *of uro*, (burning or combustible. 2. l.

florida, thallus nearly erect, roughish, greenish-grey, with very numerous fine horizontal fibres. Branches patent, sub-simple: apothecia plane, very broad, whitish, ciliated: the cilae radiating long.

barbata, thallus pendulous, smoothish, rounded, thickish, pale greenish-grey. Branches divergent, here and there fibrillose, capillary at their extremity, articulated below.

plicata, thallus pendulous, smooth, pale. Branches lax, much divided, sub-fibrillose; the ultimate ones capillaceous; apothecia plane, broad, ciliated, ciliae slender, very long.

strigosa, frond effuse, ramose, dirty-cinereous, scabrous: branches longish, flexuose, dichotomous, lax, every where bearing strigose fibres; receptacles fleshy, broad, sub-lobate, tooth-radiate. Perhaps a variety of the florida.

angulata, frond pendulous, flexuose, sub-simple, angled, pale-cinereous; angles acute, scabrous: fibres horizontal, approximate, simple, short, slenderly terete. On trees.

trichodea, frond prostrate; smooth, pale white, filiform, tender, sub-ramose; fibres horizontal, somewhat 1-sided, scattered: receptacles uniform-colored, the periphery elevated, thin, naked, entire.

V.

VARIOLA'RIA. Lat. *variola*, (small-pox spots.) 2. l.

velata, crust determined, somewhat cartilaginous, smooth, very white, plaited in rays. Warts of apothecia polished, compressed, tumid: kernel covered with a thin, powdery skin. 1½ i.

globulifera, crust sub-cartilaginous, greyish, uneven, with granules and soredia scattered in an irregular manner. Warts of fructification sub-globose, smooth, at length depressed above, soredifer, and contain a concave nucleus. 1½ i.

communis, crust cartilaginous, polished, whitish, becoming unequal and ash-colored. scattered with white soredia, leaving no margin. Warts of apothecia spheroidal, powdery. 1½ i.

amara, crust rugose, cracked, uneven, sub-pulverulent, white or greyish. Warts of apothecia appressed, plano-concave, margined, bearing soredia of the same color as the crust. 2 i.

dealbata, crust tartareous, thickish, greyish-white, cracked tumid, papillary and rugged, obscurely zoned at the circumference, apothecia orbicular, prominent, white. 3 i.

VAUCHE'RIA. In honor of Vaucher, a botanist of Geneva. 2.

dichotoma, filaments setaceous, dichotomous, fastigiate: thecae globose sessile solitary. 12 i.

dillwynii, filaments flexuous; thecae sessile, lateral globose. 1 i.

geminata, filaments dichotomous; thecae obovate stalked, opposite, on a common cornute pedicel. 6 i.

VERPA. Lat. *verpa*, (same as *phallus circumcisus.*) 1.

conica, cap bell-form, smooth, fuscous, sub-sinuate, stipe and under side yellow. 3 i.

VERRUCA'RIA. Lat. *veruca*, (a wart.) 2. l.

maura, crust very thin, smooth, much cracked, very black; apothecia very minute, sub-globose, immersed; the extremity prominent, umbilicated; nucleus blackish.

punctiformis. crust very thin, determined, polished brown; apothecia minute, hemispheric globules, without orifices, kernel white.

stigmatella, crust thin, cartilaginous membranous, polished, becoming

cracked, whitish. Apothecia minute, hemispherical, clustered, subconfluent, with scarcely any orifice.

ceuthocarpa, crust somewhat gelatinous, roundish, broken, dark, crenate cut, radiated in the circumference; apothecia sub-globose, immersed, papillosé at the end.

schraderi, crust tartareous, contig. whitish; apothecia minute, clustered, immersed, sub-globose, dirty, transparent inside.

pulla, crust thin, contiguous, membranaceous, smooth, dark-fuscous: receptacles minute, hemispheric, glabrous, sub papillate; black within. On the bark of leather-wood, &c.

W.

WEIS'SIA. In honor of Weiss, a German botanist. 4.

microdonta, small: leaves lanceolate, long acuminate, crisped and twisted when dry, having a fascicle of ducts or tubes: peduncle pale; capsule oblong-ovate: lid beaked; teeth of the peristome narrow.

curvirostra, leaves lanceolate twisted, imbricate, spreading; capsules slender, ovate-cylindric; lid beaked, recurved.

capillacea, leaves lance-subulate, serrulate, somewhat rigid, nerves thick; stem simple, slender; germs oblong-ovate, erect, smooth; lid subulate-beaked, obtusish at the apex.

Z.

ZONA'RIA. Lat. *zona*, (a belt.) 2.

pavonia, fronds reniform, flabelliform, smooth, membranous. Zones concentric. 3 i.

ZYGNE'MA. Gr. *zugos*, (a yoke,) *nema*, (a thread.) 2.

cruciatum, articulations twice as long as broad; stellae roundish. Fruit spherical. ½ i.

nitidum, articulations about as long as broad. Spire cruceate, thin contracted. Fruit elliptical. 2 i.

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CORRECTIONS AND ADDITIONS.*

ERRATA.

Page 32. Amarathus should be substituted for Amarantus.
48. Mollugo for Mullugo.
51. Strike out genus Centaurella; it is on page 50.
76. Cerastum for Ceratium.
80. Eschscholtzia for Eschycoltzia.
85. Clinopodium, for Clenipodium.
90, 91, 92, 93. an error in the running head of each, in the number of class or order, may be corrected by the true number on the same page below.
223. Ustulata for Ustuluta.
246. C. medica for medeca.
265. Running head, change Colutea for Croton.
404. Tabacum for Tobacum.

Omitted localities about Troy, now supplied by Dr. Wright.

Agrostis stricta, lateriflora, virginica, sylvatica. Brachyelytrum erectum. Bromus pubescens, purgans. Juncus nodosus, bufonius, acuminatus. Ophioglosum vulgatum. Piptatherum racemosum. Poa

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** Diagnoses Violarum*, necessarily omitted.

pectinacea serotina. RANUNCULUS pennsylvanicus. RHUS aromatica, vernix. RHYNCHOSPORA alba SCIRPUS lineatus brunneus, americanus, acicularis, planifolius, autumnalis. SCLERIA triglomerata. SENECIO obovatus. SOLIDAGO virgaurea. STACHYS hyssopifolia. TRIPHORA pendula. CALLITRICHE *verna*. CAREX *setacea, trisperma, scoparia, lagopodioides, aurea, cespitosa, flexuosa, miliacea*. CHENOPODIUM *hybridum*. CHIMAPHILIA *maculata*.

ADDITIONAL CAREXES, published by Prof. Dewey, in Silliman's Journal of Jan. 1836, since the article Carex was printed in this Manual.

CAREX.

cryptocarpa, Meyer. spikes distinct: staminate ones above somewhat in threes and partly sessile: pistillate ones with 2 stigmas, somewhat in threes, cylindric, peduncled, and sometimes staminate above: fruit obovate, convex both sides, short-beaked, entire at the mouth, lance-oblong, twice or thrice smaller than the scale. 2 f. R.

petricosa, Dewey. spikes somewhat in fours, 3-stigmas, terminal ones androgynous, staminate above; lower ones exsertly peduncled: fruit lanceolate, smooth, acute, open at the mouth, shorter than the ovate-oblong obtusish scale. 10 i. R. summit.

festiva, Dewey. spikes with 2-stigmas, androgynous, above pistillate, somewhat in sixes, ovate, densely aggregated in a head: fruit ovate-oblong, beaked at the apex, serrulate, bifid, plano-convex, longer than the ovate, acutish scale. 6—10 i. A.

petasata, Dewey. spikes with 2 stigmas, androgynous, below staminate, somewhat in fours, ovate-oblong, cylindric, sub-sessile, approximate: fruit broad-lanceolate, acute at both ends, beaked or acuminate, bifid, subulate at the mouth, longer than the broad-ovate, sub-obtuse scale. 4—8 i. R.

membranacea, Hk. spikes distinct; staminate ones somewhat in two's, oblong-cylindric, with scales from the membranaceous divisions: pistillate ones with 3-stigmas: cylindric, somewhat in two's, the very uppermost staminate sessile, lower one often peduncled, all densely fruit-bearing, sessile and black: fruit ovate sub-quitretrous ventricose short-beaked, 2-lobed at the mouth, longer than the ovate obtuse scale. 12 i. A. R.

marina, Dewey. spikelets androgynous with 2 stigmas, below staminate subternate approximate sessile, the lowest bracted: glumes all fuscous ovate-obtuse: fruit ovate sub-lanceolate, acutish plano-convex, a little longer than the scale. 4—6 i. A.

hookerana, Dewey. spike compound, spikelets androgynous 2-stigmas above staminate, below sub-remote ovate sessile many bracted: fruit lance-ovate scabrous-beaked, sub-divergent plano-convex 2-toothed a little shorter that the lanceolate-ovate cuspidate scale. 12—18 i. A.

spectabilis, Dewey. spikes distinct, staminate one solitary oblong cylindric: pistillate ones somewhat in twos with 3 stigmas ovate-cylindric exsertly peduncled, sub-remote erect, lower one long-peduncled leaf-bracted: fruit ovate obtuse nerved 2-lobed at the mouth very short-beaked, a little shorter than the lance-oblong mucronate scale. 8—12 i. A.

lanceata, Dewey. spikes distinct, staminate one solitary or in threes, cylindric erect, pistillate ones somewhat in twos with 3 stigmas, cylindric erect sub-approximate peduncled sub-lax-flowered bracted: fruit

ovate obtuse plano-convex, scarcely beaked smooth, shorter than the broad-ovate lanceolate scale. 12 i. A.

fulvicoma, Dewey. spikes androgynous, with 2 stigmas, above staminate, confert-aggregate, somewhat in fives, small-fruit ovate, obtuse, compressed, smooth, a little longer than the broad-ovate obtuse scale. 4 i. A.

nigricans, Meyer. spike single, above staminate, with 3 stigmas, dense: scales oblong, obtuse: fruit dense, sub-divergent, ovate, somewhat 3-sided, acute beaked, equalling the oblong, obtuse scale. 4—6 i. R.

redowskiana, Meyer. spike single, dioecious, oblong: fruit linear-oblong, both ends tapering, smooth, mouth 2-lobed, hyaline, about twice as long as the ovate obtuse, scarious-margined scale: culm smooth, setaceous leaves in threes. 5—8 i. A. R.

backana, Dewey. spike single, above staminate; fruit with 3 stigmas, globe-ovate, subcone-beaked, fuscous few, mouth scarious, very smooth, a little longer than the ovate, acute, membranaceous scale. 4—6 i. A.

drummondiana, Dewey. spike single, cylindric above, densely staminate, often solitary, staminate with 3 stigmas: fruit obovate, subtriquetre, below flat nerved, smooth, short-beaked, alternate, and few-flowered, mouth closed, about equalling the ovate obtuse scale. 4 i. R. A.

podocarpon, B. spikes distinct, staminate solitary ovate, pistillate with three stigmas binate oblong-ovate, sub-lax-flowered pendulous bracted: fruit oval compressed, very short-beaked entire smooth sub-pedicelled a little longer than the ovate obtuse scale (or emarginate and crested.) 10—16 i. R. A.

A very popular exotic.

17—2. DAHLIA 49. 55. receptacle paleaceous or chaffy: egret none: calyx double, outer one many-leaved; inner one, 1-leaved, 8-parted.

superflua, (R. Ju. to Nov. 2f.) rays fertile; petiole winged; leafets smooth beneath. 6 f. Mexico.

frustrania, (r. S. to Nov. 2f.) rays barren; petiole wingless; leafets roughish beneath. 6 f. Mexico.

Var. *coccinea* (scarlet daily) rachis of leaves winged; leafless, ovate acuminate, serrate, shining, and smooth beneath; outer calyx reflexed.

Var. aurantia, (orange daily) rachis of leaves naked; leaflets ovate-acuminate, serrate, roughish beneath: outer calyx spreading.

Var. lutea, (yellow daily) leaves pinnate, leafets linear, pinnatifid toothed.

New species received from Prof. SHORT and PETER.

EUPATOREUM—*torreyanum*, (S.) leaves ternate and opposite, sub-sessile, narrow-lanceolate, coarsely serrate, three nerved, punctate beneath, glabrous above. 2 f. Found on dry sand-stone knobs in the barrens of Kentucky near Mammoth Cave, K.

LUDWIGIA—*polycarpa*, (Oc.) erect, much branched; leaves narrow-lanceolate, acute at each end, alternate, glabrous: flowers apetalous? closely sessile, axillary and congregated; capsules spherical, two-leaved. 1 to 3 f. Discovered by H. A. Griswold in wet lands around Louisville. Ky.

SCUTELLARIA—*hirsuta*, ( ) stem erect, simple, sparingly branched hirsute leaves petioled broad-ovate, crenate, obtuse, hirsute: bracts ovate, ciliate: calyx hairy. 1 to 2 f. Discovered by H. A. Griswold on the borders of marshes around Louisville, Ky.

EATON'S

BOTANICAL

GRAMMAR AND DICTIONARY,

MODERNIZED DOWN TO 1836.

Published for a Companion of STEELE's Seventh Edition of the MANUAL OF BOTANY.

FOURTH EDITION.

ALBANY:

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1836.

GRAMMAR OF BOTANY.

PHYSIOLOGY, THE SCIENCE OF ORGANIZATION OF VEGETABLES AND ANIMALS.

1. ELEMENTARY CONSTITUENTS. ULTIMATE ATOMS OF VEGETABLES are essentially *carbon*, (the basis of charcoal,) *hydrogen*, (the basis of water,) and *oxygen*, (a constituent of atmospheric air and water.) *Nitrogen*, (one of the constituents of atmospheric air, and of salt-petre,) is also a constituent of *cruciform* plants. ULTIMATE ATOMS of animals are essentially *carbon*, *hydrogen*, *oxygen*, and *nitrogen*. *Phosphorus* and *sulphur* are often present; and rarely some other principles.

ULTIMATE ORGANIC ELEMENTS are *cellular tissue*, *vascular tissue*, and *fibre*. These elements seem to be the *primary* product of the living principle, whenever it exerts any influence upon matter. Its *secondary* act arranges these ultimate elements so as to constitute species of organized beings.

2. *Specific differences exist, primarily, in the living principle only.* About ninety thousand ascertained species of vegetables consist essentially of carbon, hydrogen, oxygen; rarely with the addition of nitrogen. When a species decays, (for example the oak tree,) and the seed of a totally different species falls among its ruins, (for example the lily,) some of the same individual atoms which constituted the oak, will now constitute the lily. A successive series of individuals of the same species of living principle, which gave form to the hyacinth cultivated by Eve in Eden, may have been employed in changing into its own form the decaying constituents of the helebore, the poison hemlock, the palm-tree, the cedar of Lebanon, and the pulse of Daniel, until the present year. We are therefore constrained to believe that we have about 80 or 90 thousand species of living principles, passing from plant to plant, in a multiplied ratio, through the organic vehicle, the seed or sporule.

3. The *living principle*, the essence of specific differences, is endowed with *irritability* and *appetency*. But it is never endowed with provident care, nor a disposition to contend for rights. Plants, Radiated animals, (as the inhabitants of corols, sponges, &c.) and Molluscous animals, (as oysters, snails, &c.) are thus furnished with irritability and appetency. Their remains are found in the oldest rocks above the primative; while none of the higher orders of organized beings are found below upper secondary rocks.*

4. *Instinct*, supervenes upon the living principle in Articulated animals, (as bees, lobsters, spiders, &c.) and Vertebrated animals, (as lizards, snakes, fish, birds, and land quadrupeds.) Many of their remains

*I do not intend to give any opinion on the controversy respecting trilobites, between Brongniart and Latreille. The former ranks the trilobites among articulated animals, and the latter among multivalve mollusci.

are found in the most recent rocks and stratified banks of clay and sand. Such animals are endowed with *provident care*, and a *disposition to contend for rights*. But no such species can desire or conceive of, a future state of being after death.

5. *Intellect* supervenes upon instinct and the living principle, in the single species, Man. His remains have never been found in any stratified deposit; therefore he was created, after such depositions were finished. As he is the only species of organized being on this earth which is endowed with intellect to desire or conceive of a future life; so it appears from the sacred Scriptures that HIS INTELLECT ALONE, will survive death.

VEGETABLE PHYSIOLOGY.

If soap suds be put into a clearly transparent glass vessel, (a plain decanter is very suitable,) and the breath be forced into it through a pipe or quill, bubbles will be formed, which resemble the elementary cellular structure of plants. If the vessel be corked closely about the pipe, and the liquid be clear and in a small quantity, the bubbles may be compressed by sufficient force of the breath, into polyhedral figures of various sizes. Though the adjoining flattened sides are double, they appear to be single. Such is also the figure, appearance, and structure, of the cellular tissue of plants. The chief volume of the thick, fleshy parts of plants, is thus constituted; particularly the parenchymous parts of leaves, &c.

If bubbles are, elementarily, elongated spheroids, they will become hollow parallelopipeds by compression. Thus bubbles may be compressed and so collated as to resemble the arrangement of bricks in a wall. If extensively elongated and greatly compressed they will form compact elongated parallelopipeds. These may be so arranged as to give the firm texture of the oak tree, or even of the *lignum vitæ*.

These bubbles, or cellules, may be separated in some vegetable: and will become spheres, or spheroides, by the recovery of their elasticity. This result may be well illustrated, by heaping inflated soap-bubbles (blown from the bowl of a tobacco pipe) upon baize, with a very long nap. Their compressed adjoining sides (which appear to be single walls) will recover their spherical forms, on blowing the bubbles asunder.

CELLULAR TISSUE is a connected, or interwoven, series of cellules, adhering by compressed faces. No visible perforations have been observed in the cellules: though we have pretty good evidence of the transmission of liquids through them in all directions. This is the only tissue which is an *universal constituent* in all plants. It constitutes the whole of Cryptogamous plants, at least of the lower orders, the parenchymous parts of leaves, pulpy fruits, &c.

SPIRAL VESSELS, consist of a tissue produced by the adhesion of cellules in more or less of a fibrous form, and coiled or twisted spirally so as to form cylinders. They are found in medullary sheaths (that is, the thin hollow cylinder surrounding the pith); also around the centre in all branches, and in veins of leaves. But they are never found in parts which are produced by the descent of deposited matter; consequently are not found in bark, or outer layers of wood or roots.

Spiral vessels are never found in the lower orders of cryptogamia. Therefore *cryptogamous* plants are called *Cellulares;* and *phenogamous*

plants are called *Vasculares*. Spiral vessels may be seen by breaking the stem of stellaria media, and pulling the parts asunder—also strawberry petioles, young sprouts of numerous shrubs, &c.

FIBRE, or WOODY FIBRE, consists of a tissue of elongated tubes, or of dense fibre, perhaps always tapering to each end. Always imperforate to the eye. It is found among parenchyma; and gives strength to vegetable fabric.

Ducts or air vessels, are transparent tubes, marked with dots, bars, or transverse streaks. Sometimes they appear like spiral vessels: but they have rings instead of spires.

Intercellular passages, are small spaces between cellules. *Stomata* are little oval mouths between the sides of cells, opening into intercellular passages.

SEED.

The *specific* characteristics of the living principle seem first to exert their energies in the seed. And as it is the organ upon whose structure are founded the most important distinctions in Natural Classification, it demands the student's first attention, when entering upon the study of Vegetable Physiology or Natural Orders.

The seed consists of *integument*, *albumen* and *embryo*. Sometimes the albumen is wanting; as in the bean. In such cases the thick cotyledons are parts of the embryo, and expand into what are called cotyledonous leaves. Integument is always present; excepting that the seeds of Coniferae (as pines, junipers or cedars, cypresses, &c.) and of Cycadeae. (as the sago plant) are naked, being totally destitute of any covering, but the cuticle.

The EMBRYO is divided into *radicle*, the part becoming the root, *cotyledons*, the parts becoming peculiar succulent leaves, *plumula* the ascending part (often shooting up from between the cotyledons) which become developed into stem, leaves, fructification &c. Albumen often embraces the embryo, or holds it in a depression on one side; as the Indian corn. In most graminious plants, albumen forms a large proportion of the seed.

The student cannot be made to understand seeds without producing germination,—and then watching its progress through all the early stages of growth. [See directions at page .]

ROOT.

The radicle of the seed extends downwards and becomes a root. It divides into branches and fibres; at the extremities of wich are bundles of ducts, adapted to the absorption of nutriment. These ducts seem to be endowed with the power of decomposition; as carbon is certainly obtained from carbonic acid gas. Students should watch the progress of germination and growth of seeds planted in pure pounded quartz, or glass, so placed in a suitable vessel, that nothing but pure water and atmospheric air, can have access to them. He will then see, that the chief volume of the plant is carbon, which must have been obtained from a decomposition of the carbonic acid gas, which floats in the atmosphere. Spiral vessels, pith, stomata, and buds, not in roots.

Kinds of roots as used in descriptions.

Branching, fibrous, creeping, spindle, tuberous, bulbous, granulated. See Root in Dic.

STEM.

Leaf-buds elongate upwards into stems, after the plant is so far advanced as to produce buds. In truth buds of a tree may be considered as distinct individuals, inhabiting, and drawing support from, the same general substratum or reservoir of food.

The depositions of matter, causing the increase of volume in vegetables, are made on two general principles; depending on the distinctions peculiar to Monocotyledonous and Dicotyledonous plants. In Monocotyledonous stems (for example the stalk of Indian corn) the matter of increase is added at the centre. Hence such plants are called Endogynous. In Dicotyledonous stems (for example the bole of the poplar tree) the matter of increase is added to the outside of the wood or other solid part, inside of the bark. Hence such plants are called Exgenous. In the latter case the addition, or deposited matter appears just under the bark in the form of mucilage, called camb *(cambium)* which, at the decline of the year, becomes indurated and divides into two concentric hollow cylinders, inner one thick, forming a new outer circle of wood: the outer one thin, forming a new inner circle of the bark.

Exogenous plants, as elder, oak, &c. have their stems made up of Pith, Medullary sheath, Medullary rays, Wood, Cambium, Bark, Cellular integument, and Cuticle.

Pith, the well-known central spongy column.

Medullary sheath, is the immediate cylindrical sheath surrounding the pith, it consists of spiral vessels and ducts, for carrying up the sap or other fluids. From this sheath, rays issue, which are called:

Medullary rays, or silver grain. They are vertical sheets, plates, or radiating lamellar organs, whose inner edges are connected with the Medullary sheath, and whose outer edges extend annually through the last woody deposit (indurated cambium.) The stump of an oak tree, after the tree has been cut off about a year, exhibits the silver grain in a beautifully radiated manner. They, being less subject to the action of air and rain than the common wood, exhibit themselves distinctly marked by their silvery lusture.

Wood consists of concentric hollow cylinders, outside of the medullary sheath, and inside of the bark. The annual deposits of cambium, become woody fibres, which constitute the continuous descending axes of buds; therefore the number of concentric layers indicates the age of a tree &c. The outer and most irritible layers are called *sap-wood*, or alburnum, the inner and more matured layers are called *heart-wood*.

Camb, cambium, is deposited by the return of sap downwards. This may be demonstrated by inspection. Therefore we say, the sap goes up near the pith, and goes down between the cuticle and heart-wood. It is supposed, that the sap must be exposed to the atmosphere in leaves or other delicate herbage (as the stems of dodder) before it is in a situation for vegetable deposits. In this respect it is analagous to animal blood becoming modified in the lungs, by alternate inhalations of air.

Bark consists of a strong inner layer, or *bark proper;* an outer thin almost lifeless membrane called *cuticle*; and a loose green (generally) envelope between the cuticle and bark, called *cellular* integument.

Woody layers being annually deposited under the bark, the early wood becomes widely separated from the bark after several years.

It is on this account that those trees which long retain their expanding cuticles, present to our land surveyors those parodoxical magic-like marks. A beech tree, for example, if lettered or figured with a board-marker, will present these marks twenty or thirty years aftewards, both on the cuticle, and on the wood of the year when marked; while the intervening layers are sound and without a scar. These interposed woody layers, originating in mucilage annually deposited between the bark and wood, gradually separate the marked bark and cuticle from the marked wood, while they grow between these marks and become continuous.

Kinds of stem, as used in description.

Stem (caulis). Ascending herbage-bearing trunk. It is applied to all *dicotyledonous* plants, which have a trunk—also to *monocotyledonous* plants excepting the grass-like orders: Examples of such *dicotyledonous* ones —oaks, grapes, elder, mullein—also of such monocotyledonous ones—lilies, asparagus, onion, iris, ladies' slipper.

Culm, the stalk or stem of all grass-like plants only. Therefore all culmiferous plants are monocotyledonous; as the straw of wheat, corn-stalks, cane, meadow grass, &c.

Scape, a flower-bearing stem, springing from the root, without leaves, as the dandelion. *Peduncle*, any flower-bearing stem not immediately from the root, as the apple. *Petiole*, any leaf-stem. All these are common to the three grand divisions.

Frond, the fruit-bearing support in which leaf, stem, petiole, &c. are condensed, as the whole fern, moss, lichen, &c.

Stipe, any undescribed stem, as of mushrooms, of egret, &c.

Frond is applied *exclusively* to acotyledonous plants. Stipe is *chiefly* applied to the same.

BUDS.

The same buds may become leaves, stems, and branches: or calyxes, corols, stamens and pistils. Experienced gardeners can readily distinguish leaf-buds from flower buds; and these buds will not interchange under ordinary circumstances. But from most careful and profound investigations, made by learned and patient Naturalists, it seems to be demonstrated, that the elements of flowers and fruit, may be traced to a leaf-bud. A bud (truly a leaf-bud, and so pronounced by the eye of experience,) may become developed into a branch, bearing leaves in whorls, alternations, or scattered. Or the lower whorl of leaves may have become sepals (distinct or united;) the next petals; the next stamens; and the end of the branch may have become the germ, style and stigma of the pistil. In most calyxes, corols, and stamens, we can discover alternations in their divisions. The great difference in the course of developement seems to be, in the elongation of the axis. When the axis is a branch, it may be elongated to the measure of several feet. When the axis is merely the receptacle of a flower, and the pistil, its elongation may be limited to the fourth, or even sixteenth of an inch.

Some buds are formed under-ground, as of tulips; but regular ones are produced in the axils of leaves.

Stinted buds often become thorns. Some plants are remarkably subject to the process of stinting buds, as most species of Crataegus, some species of Prunus, and a few of the Pyrus.

LEAVES

Regular leaves never grow out, side by side. The alternate position along opposite sides, seems to be the real *normal* principle of arrangement, towards which all other positions tend. Though we find them opposite and in whorls, our best physiologists ascribe this to the unequal developement (to which some plants are habitually subject) of the internodes of the axis.

The leaves of *exogenous* (dicotyledonous) plants derive their spiral vessels from the medullary sheath, which the structure of the ribs and veins greatly resemble. The cellular integument and cuticle of the leaf is derived from that of the stem: and becomes more or less expanded and attenuated. The veins of exogenous leaves branch off in various directions among the substance of the disk (made up of cellular-integument and cuticle) called parenchyma.

The leaves of endogynous plants (monocotyledonous) derive their spiral vessels from bundles, diverging off as a subdivision of the general quantity of bundles constituting the whole culm, which the structure of the veins greatly resembles. Their veins mostly extend from the base of the petiole to the apex, or to a kind of cord or edging which carries them on, in an united state, to the apex.

The petioles of some leaves become spiral climbers, as of the Clematis. In many cases the leaf does not expand into a disk; but becomes two or more (rarely one) branches of a climber, called a tendril, as grapes and peas. Sometimes the petiole spreads into an enormous cup, as that of the Saracena, (side-saddle.) This cup is called an *ascidium*, (bottle-leaf.) (Greek, *askos*, the leathern bottle of the ancients, *idios*, peculiar or particular kind.)

Kinds of leaves, as distinguished by their form, surface, position, aggregation, and duration.

In duration, leaves are evergreen, deciduous and caducous.

FORMS OF SIMPLE LEAVES.

1. *Orbicular.* Nearly circular, as the leaves of red clover, of cabbage, &c.
2. *Ovate.* Resembling the longitudinal section of an egg, the base being broader than the extremity. One of the most common forms of leaves.
3. *Oval.* Differing from ovate, in having both ends equal in breadth.
4. *Oblong.* The length more than twice the breadth, and the sides somewhat parallel.
5. *Obovate.* Ovate, with the narrowest end towards the stem, as those of red clover.
6. *Cordate.* Heart-shaped, the hind lobes being rounded, as lilac.
7. *Obcordate.* Cordate, with the apex or narrowest end towards the stem, as of wild indigo.
8. *Kidney-form.* Hollowed in at the base, with rounded lobes and rounded ends, as mallows.

9. *Lanceolate.* In the form of the ancient lance, tapering from near the base to the apex, and narrow, as the leaves of most of the willows, of ribwort, &c.
10. *Linear.* Continuing the same width through nearly the whole length; usually pointed at one or both ends, as most grasses.
11. *Awl-form.* Linear at the base and becoming more or less curved at the point.
12. *Acuminate.* Any kind of leaf terminating more or less suddenly in a point turned towards one edge of the leaf.
13. *Arrow-form.* Shaped like an arrow-head; differing from cordate in having the hind lobes more or less acute.
14. *Halbert-form.* Hastate. Shaped like an halbert, as field-sorrel, creeping snapdragon.
15. *Guitar-form.* Oblong, broadish near the base and contracted at the sides.
16. *Lobed.* Deeply parted, and the divisions large, with rounded sides or ends, as the white oak.
17. *Palmate.* Resembling a hand with the fingers spread, as horse-chestnut.
18. *Pedate.* Resembling a bird's foot.
19. *Sinuate.* Having the margin hollowed with deep sinuses or bays, as the white-oak.
20. *Pinnatifid.* Divided transeversely by deep incisions, not extending to the midrib.
21. *Lyrate.* Pinnatifid with the largest division at the apex, and diminishing from thence to the base, as hedgemustard.
22. *Runcinate.* Pinnatifid, with the divisions pointing backwards, as dandelion.

EDGES OF LEAVES.

23. *Serrate.* Having sharp notches resembling saw-teeth along the margin, and pointing towards the apex, as those of cherry-trees, roses, &c.
24. *Toothed.* Having projections from the margin of its own substance, which are neither serratures, nor crenatures, as those of the blue-bottle.
25. *Crenate.* Having uniform notches on the margin of the leaf which incline towards the apex, or the base, or neither, as gill-overground.

ENDS OF LEAVES.

26. *Emarginate.* Notched at the termination of the midrib.
27. *Retuse.* Emarginate with a shallow sinus.
28. *Obtuse.* Having the apex of the leaf more or less rounded.
29. *Acute.* Terminating in an angle; that is, not rounded.

SURFACES OF LEAVES.

1. *Hairy.* Having distinct, straight hairs.
2. *Downy.* Covered with fine cotton-like down.
3. *Silky.* Covered with soft close-pressed hairs.
4. *Bristly.* Set with stiff hairs.
5. *Ciliate.* Edged with parallel hairs or bristles, resembling eye-lashes.

6. *Nerved.* Furnished with midrib-like fibres running from the base to the apex.
7. *Veined.* Having tendinous fibres variously branched.

POSITIONS OF LEAVES.

1. *Decurrent.* When the two edges of the leaf extend along the stem below the place of insertion.
2. *Clasping.* Sessile with the base more or less heart-form, so as entirely, or in part to surround the stem.
3. *Sheathing.* With the leaf prolonged down the stem, so as to cover it, in the manner of the grasses.
4. *Perfoliate.* Having the stem passing through the leaf.
5. *Connate.* Leaves opposite, with their bases united.
6. *Peltate.* With the footstalk attached to the lower side of the leaf, so as to resemble a shield.
7. *Opposite.* Standing at the same height with base against base.
8. *Whorled.* Surrounding the stem in horizontal rings or rows.
9. *Imbricate.* Lying over each other like shingles on a roof, so as to "break joints."
10. *Fascicled.* Growing in bunches from the same point, as leaves from white pine.
11. *Radical.* Proceeding immmediately from the root.

COMPOUND LEAVES.

1. *Ternate.* Having three leafets proceeding from the end of one petiole.
2. *Biternate.* Twice ternate; when the petiole is ternate, and each division bears three leafets.
3. *Triternate.* Three times ternate.
4. *Pinnate.* With distinct leafets arranged on opposite sides of the same petiole.
5. *Bipinnate.* Twice pinnate.
6. *Tripinnate.* Thrice pinnate.
7. *Interruptedly-pinnate.* Having smaller leafets dispersed among the larger, as potatoe.

Leaves and appendages used in descriptions.

Stipules are rudimentary leaves and sometimes are transformed into real leaves, with buds in their axils. They are generally appendages attached to the bases of leaves: as of rose-leaves.

Bracts (often called floral leaves) are generally near the origin of a flower and at first surrounding or adjoining it. Bracts are at a small distance below the calyx, when present. The chaffs or husks of grass and corn, are strictly bracts; but in descriptions they are treated as equivalent to calyxes and corols.

Thorn, an abortive indurated bud fixed on the wood.

Prickle, arises from the bark by expansions in minute spots.

Hairs, arise in the same manner: sometimes they yield an acrid liquid by compression; as of the nettle.

Gland, a roundish (generally minute) appendage on various organs of some plants.

Tendril, a filiform appendage by which some climbing plants support their position.

INFLORESCENCE.

The form of any one kind of inflorescence depends on the developement of the flower-bud from which it is produced. The form of developement commences in the very axil from whence the flower buds originate. Numerous latent budlets are subjected to the developing energies of the plant at the same time. If a general axis is duly elongated with lateral pedicels, a *raceme* is produed; as of the currant. If no pedicels are developed it becomes a *spike*. If lateral peduncles are considerably elongated and sub-divided it becomes a *panicle*. If branches are slightly developed in a radiated form, a *head* is produced. But if these radiated branches are more extensively developed, an *umbel* appears. If the branches of the umbel are unequally subdivided, a *cyme* is made; or a *corymb* if the branches are at different distances along the axis.

CALYXES AND COROLS.

These organs, called floral envelopes, are modifications of whorls of leaves, as mentioned under *buds*. There is generally a calyx and corol to a flower; and by careful examination we find them to be made up of segments (united or separated) so arranged that those of the calyx and corol alternate with each other.

In descriptions the *calyx* is said to be monophyllous (one-leaved) or polyphyllous (many-leaved)—more recent authors say *monosepalous* and *polysepalous*.

The *corol* in descriptions is said to be monopetalous (one-petalled) polypetalous (many petalled.) Particular names are used also. All of which are defined in the annexed Dictionary.

Kinds of floral envelope as used in descriptions.

Subdivisons of the Calyx.

Every calyx is either *monophyllous*, consisting of one leaf: or *polyphyllous*, consisting of more than one leaf. Either kind may be:

1. *Perianth.* That calyx which adjoins and surrounds the other parts of the flower, as of the apple, rose, &c.
   About two thirds of all plants have perianths.
2. *Involucre.* That calyx which comes out at some distance below the flower and never encloses it. It is commonly at the origin of the peduncles of umbels, and sometimes attached to other aggregate flowers. Involucres are either *universal*, placed at the origin of the peduncles of umbels as in caraway, lovage, &c.: or, *partial*, placed at the origin of a particular umbel, as in coriander; or *proper*, placed beneath a single flower.
3. *Spathe.* A kind of membrane, which at first encloses the flower, and after it expands, is left at a distance below it, as daffodil, onion, Indian turnip.
4. *Glume.* That kind of calyx which is composed of one, two or three, valves or scales, commonly transparent at the margin, and often terminated by a long awn or beard; all grasses have glume calyxes.

5. *Ament.* An assemblage of flower bearing scales, arranged on a slender thread, or long receptacle; each scale generally constituting the lateral calyx of a flower, as in the willow, chestnut, pine, &c.
6. *Calypt'e.* The cap or hood of pistillate mosses, resembling in form and position an extinguisher set on a candle. Conspicuous in the common hair-cap moss:
7. *Volva.* The ring or wrapper at first enclosing the pileus or head of a fungus; and which, after the plant has arrived to maturity, contracts and remains on the stem or at the root

Subdivisions of the corol.

Every corol is either *monopetalous*, consisting of one petal or flower-leaf; or *polypetalous*, consisting of more than one.

Monopetalous corols are,

1. *Bell-form.* Hollowed out within the base, and generally diverging upwards, as Canterbury bells, gentian, &c.
2. *Funnel-form.* With a tubular base, and the border opening gradually in the form of a funnel, as the thorn-apple, morning-glory.
3. *Salver-form.* Having a flat spreading limb or border, proceeding from the top of a tube, as lilac, trailing arbutus, &c.
4. *Wheel-form.* Having a spreading border without a tube, or with an exceeding short one, as borage, laurel, mullein.
5. *Labiate.* A labiate corol is divided into two general parts, somewhat resembling the lips of a horse or other animal. Labiate corols are either *personate*, (with the throat muffled) as snap-dragon; or *ringent*, (with the throat open) as mint, mother-wort, catnip, monkey-flower.

Polypetalous corols are,

1. *Cruciform.* Consisting of four equal petals spreading out in the form of a cross, as radish, cabbage, mustard, &c.
2. *Caryophylleous.* Having five single petals, each terminating in a long claw, enclosed in a tubular calyx, as pink, catch-fly, cockle, &c.
3. *Liliaceous.* A corol with six petals, spreading gradually from the base, so as altogether to exhibit a bell-form appearance, as tulip, lily, &c.
4. *Rosaceous.* A corol formed of roundish spreading petals without claws, or with extremely short ones, as rose, apple, strawberry, &c.
5. *Papilionaceous.* A flower which consists of a banner, two wings and a keel; as pea, clover, &c. supposed to resemble a butterfly.

If a corol agrees with none of the above descriptions, it is called *anomalous.*

STAMENS.

We will proceed on the hypothesis (perhaps it may be called an established physiological principle) that the receptacle, terminated by the pistil, is but a different developement of a branch as an axis issuing from a leaf-bud; and the calyx and corol are but different developements of leaves along said axis. We shall thus be led to consider the stamens as an analagous, but different, developement of a whorl of leaves next above those forming the petals. The language of Lindley is most appropriate. "There are many instances, (as the pond-lily, Nymphaea) in

which no limits can be traced between the petals and stamens. In such cases it is found that the limb of the petal contracts and becomes an anther, while the claw (unguis) assumes the state of a filament. Now as there are no fixed limits between the petals and sepals (calyx leaves,) nor between sepals and bracts, nor between bracts and leaves, it follows that the stamens are also modifications of leaves. And as the limb of a petal is analagous to the lamina (or broad disk) of a leaf, and the claw is analagous to the petiole, it also follows that the anther is a modification of the lamina of a leaf, and the filament is a modification of the petiole.

"Stamens follow the same laws of successive developement as leaves: and consequently, if their arrangement be normal (in exact accordance with the governing elementary law of arrangement in that particular species) they will be either equal in number to the petals, and alternate with them; or, if not the same, some regular multiple or divisor of the petals. If they are twice the number of petals, two whorls are supposed to be developed into stamens," with a very small elongation of the axis. If they are but half the number, two whorls are supposed to be developed into petals.

"All deviations from these laws are ascribed to the abortion of some part of the organs. When the stamens do not contract any union with the sides of the calyx, they are *hypogynous;* when they do contract such adhesion, they are *perigynous.* If they are united both with the surface of the calyx and the germ, they are *epigynous*"

Parts of stamens as used in descriptions.

Stamen is divided into *filament* (often wanting) which supports the *anther.* The *anther* is a kind of capsular knob, mostly at the end of the filament. Always present in a species. It contains a mealy or glutinous substance called *pollen.*

PISTIL.

The pistil is a metamorphosis or modification of a single leaf, or one or more whorls of leaves. The germ is a peculiarly developed lamina of a leaf: the style is an elongated midrib of a leaf; the *stigma* is the naked secreting humid apex of the midrib. The *germ* (ovarium) includes the *carpella* and *ovula,* when all are present. A *carpellum* is a single rudiment of the smallest subdivision of the fruit, embracing an *ovulum* (unperfected seed) or more than one. Carpella are formed of folded leaves, whose margins develope ovula (seeds) by the metamorphosis of cellular integument into granulations finally becoming seeds. A substance called *placenta,* more or less fleshy, is always produced on the columella (or an included or naked receptacle,) from which the carpella including the ovula (seedling germs) always grow fastened by a *funicule.*

Parts of Pistils as used in descriptions.

Pistil is divided into *germ* (ovarium) the basis, which ripens into fruit and seed; the *style* proceeds generally from the top of the germ—either single or in numbers—generally falls off before the fruit ripens; but sometimes becomes a permanent beak. The *stigma* is at the top, when

the style is present. It is scarcely distinct from the style; being rather a spot of secreting moist surface on the style.

FRUIT.

Fruit is the ripened germ (*ovarium.*) It consists of a *pericarp*, *perisperm* or *tegument* (very absurdly called pericarp by some late authors) and *seed*, in most cases; as the apple. Many are destitute of the pericarp, which have a *perisperm*; as Indian corn and mint. Some few are destitute of the perisperm also; having no covering but the *cuticle*.

Kinds of pericarps, as used in descriptions.

1. *Silique.* That kind of pod which has a longitudinal partition, with the seeds attached alternately to its opposite edges; as radish, cabbage, &c.
2. *Legume.* A pod without a longitudinal partition, with the seeds attached to one suture only, as the pea, &c.
3. *Capsule.* That kind of pericarp which opens by valves or pores, and becomes dry when ripe, as the poppy, which opens by pores, and the mullein by valves.
4. *Drupe.* That kind of pericarp which consists of a thick fleshy or cartilaginous coat inclosing a nut or stone, as in the cherry, in which it is said to be *berry-like;* and in the walnut, where it is *dry*.
5. *Pome.* A pulpy pericarp without valves, which contains seed within a capsule, as apples, quinces, &c.
6. *Berry.* A pulpy pericarp enclosing seeds without any capsule, as currant, grape, cucumber, melon.
7. *Strobile.* An ament with woody scales, as the fruit of pine.

Illustrations of the germ (ovarium) *in its progress to the state of ripened fruit.*

1. Take two ripened apples, which have not approached decay or a tender mealy state. Consider them as enlarged germs. Split one of them vertically. Observe that, from the stem up to the place of the seeds, there is a kind of solid axis, which is an elongation of the base of the germ; now enveloped by the thickened parenchyma of the germ. This is called the *gynophorus*.

2. Observe that from permanent calyx at the top of the split apple to the place of the seeds, there is also a kind of solid axis. This is the *base of the style*, also enveloped by the thickened parenchyma.

3. Now cut the other apple transversely (crosswise) about one third of the distance from the top towards the base. Here will be seen 5 cells containing seeds, each cell lined with valves. The cells will exhibit seeds of a wedge-ovate compressed form, with thick ends pointing obliquely upwards: and taper ends below attached by very short funicules to placenta, in five columella (one to each cell.)

4. Now cut a seed transversely. It will be seen, that the real seed is white, and now covered with its cuticle only; and the brown leathery covering is a distinct organ from the seed. This is truly the *perisperm*. While the petals still remained, and while the apple was called a germ, the rudiment of both this brown perisperm and white seed was called *carpella*, and this white seed, considered separately, was called *ovulum*.

After thoroughly examining several apples in this manner, all kinds of fruit may be investigated with facility. For example, the common pea has its pericarp (pod) which was a germ with all its rudimentary contents. The seed were its *carpella*, its *present* testa being the *perisperm* —its present inner seeds stripped of their testae or perisperm, were its *ovula*. Considerable aid may be received from accurately figured examples, while we are examining specimens. But figures alone will never convey accurate instruction.

This brings us to the seed, with which we commenced; and thus completes the circle. Though the descriptions are short, and embrace nothing in detail; sufficient is given for starting the student in the right course. Those who wish to pursue the subject of vegetable physiology extensively, are referred to the writings of Lindley—particularly his introduction to the Natural Method, and his introduction to Botany. His Ladies' Botany would be well enough for an ordinary writer; but it is quite beneath *himself*.*

REPRODUCTION OF CRYPTOGAMOUS PLANTS.

The student should give some attention to the reproduction of plants, wherein the stamens and pistils have no agency: or where their agency has not hitherto been detected. These are the Natural Families denominated *Filices* (ferns, as brakes, polypods, maidenhair.) They grow chiefly on the earth, in places highly elevated or cool and damp. Musci (mosses, and hepatic mosses called liverworts.) These grow chiefly on trees in ancient forests, or in damp shady places on the earth. Lichenes (lichens.) They are wholly confined to dry situations in free air; but in such situations they are found from the equator to the polar regions. They are in the form of crusty, leathery, woody, patches (sometimes fibrous and branching) on stones and trees, old fences, &c. in almost all places. Algae, (seaweeds, frogspittle, greenhair.) They are found in wet situations, also in clear water. Fungi (mushrooms, puffballs, mould, mildew, smut.) These abound in all parts of the habitable world. They are found on the earth, rotten wood, decaying vegetables of every kind; on bread and other domestic food; on leather, cloth, and almost every thing capable of becoming moderately moistened, after it has been thus exposed for a short period.

The following extract from Lindley's article on their REPRODUCTION and INCREASE, will be sufficient for our present purpose. The description of the *Natural Orders*, which succeeds this article, will give a more enlarged view of these very interesting productions of Nature.

[Extracts from Lindley's Outline of the First Principles of Botany.]

Ferns are increased by little bodies called *sporules*, inclosed within cases, named *thecae*, which often grow in clusters or sori, from the veins of the under sides of the leaves, or from beneath the cuticle. The latter, when it encloses the *thecae*, is termed *indusium*. The *indusium* separates from the leaf in various ways, in consequence of the growth of

*We have heard by way of our friends in Kentucky, that one of our neighbors in our own state is soon to surprise us with an excellent digest of all the elementary treatises of Lindley, in the best American dress.

the *thecæ* beneath it. The *thecæ* have frequently a stalk which passes up one side, and finally, curving with their curvature, disappears on the opposite side. The part, where the stock of the *thecæ* is united with its side, is called the *annulus*. These *thecæ* may be considered minute leaves, having the same gyrate mode of developement as the ordinary leaves of the tribe. Their stalk, the petiole, the annulus, the midrib, and the *thecæ* itself, the *lamina*, have their edges united. They would therefore, be analagous to *carpella*, if it appeared that they were influenced by the action of any vivifying matter, equivalent to the pollen.

Mosses, are increased by *sporules*, contained within an *urn* or *thecæ*, placed at the apex of a stalk or *seta*, bearing on its summit a kind of loose hood, called a *calyptre*, and closed by a lid or *operculum*. The inside of the *theca* has a central axis or *columella*, and the orifice beneath the *operculum* is closed by teeth-like process, or a membrane, called the *peristomium*. The number of the teeth of the *perestomium* is always some multiple of four. The *calyptra* originally grew from the bases of the stalk; but when the stalk elongated, the *calyptra* was torn away from its base, and carried up surrounding the *thecæ*. The *calyptra* may be understood to be a convolute leaf: the *operculum*, another; the *peristomium*, one or more whorls of minute flat leaves; and the *thecæ* itself to be the excavated distended apex of the stalk, the cellular substance of which separates in the form of *sporules*. There are also in mosses' organs, called anthers by some, which do not appear analagous to the stamina of flowering plants, and the nature of which has not been demonstrated.

Lichens are propagated by *sporules*, included within little membranous cases, which lie within a denuded portion of their own central substance, calledthe *scutellum*, *apothecium*, or *shield*.

Algæ increases by sporules, wihch are usually formed by a separation of cellular tissue, within the substance of the plants themselves.

Fungi, have a similar mode of propagation. In some of the most highly developed of the tribe, the part in which the *sporules* lie, is distinct in appearance from the rest, and called the *hymenium*.

Latin and Greek Numerals as used in composition.

Before entering upon the study of the Natural Method, as well as of the Artificial (and even before using the Botanical Dictionary) the student should be perfectly familiar with those numerals which are perpetually used in composition. They are the following

NUMERALS, AS APPLIED TO THE ARTIFICIAL CLASSES.

Latin.	*Nos.*	*Greek.*	
Unus	1	Monos	1 MONANDRIA, 1 stamen.
Bis	2	Dis	2 DIANDRIA, 2 stamens.
Tres	3	Treis	3 TRIANDRIA, 3 stamens.
Quatuor	4	Tettares	4 TETRANDRIA, 4 stamens.
Quinque	5	Pente	5 PENTANDRIA, 5 stamens.
Sex	6	Ex (pronunced hex.)	6 HEXANDRIA, 6 stamens.
Septem	7	Epta (pronounced hepta)	7 HEPTANDRIA, 7 stamens.
Octo	8	Okto	8 OCTANDRIA, 8 stamens.
Novem	9	Ennea	9 ENNEANDRIA, 9 stamens.
Decem	10	Deka	10 DECANDRIA, 10 stamens.
Undecem	11	Endeka	11 ICOSANDRIA, 20, and down to 10 on calyx.
Duodecem	12	Dodeka	12 POLYANDRIA, many, above 10 not on calyx.
Tredecem	13	Dekatreis	13 DIDYNAMIA, 2 longer than 2.
Quatuordecim	14	Dekatettares	14 TETRADYNAMIA, 4 longer than 2.
Quindecim	15	Dekapenta	15 MONADELPHIA, in 1 set by fil.
Sexdecim	16	Dekaex	16 DIADELPHIA, in 2 sets by fil.
Septendecim	17	Dekaepta	17 SYNGENESIA, united anthers.
Octodecim	18	Dekaokto	18 GYNANDRIA, stamen on pistil.
Novendecim	19	Dekaennea	19 MONOECIA, same root, not flower.
Viginti	20	Eikosi	20 DIOECIA, different roots and flowers.
Multus	Many	Polus	21 CRYPTOGAMIA, stamens wanting.

The first ten numerals only are applied to the classes set opposite to them.

See each class in the Dictionary.

Greek Numerals applied to the Orders of the Artificial Classes.

The numeral abbreviations precede *gynia*, under the first twelve classes; *andria*, under 15, 16, 18, 19, and 20.

	1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	10th.	12th.	16th.
1	Mon.	Dig.	——	——	——	——	——	——	——	——	——
2	Mon.	Dig.	Tri.	——	——	——	——	——	——	——	——
3	Mon.	Dig.	Tri.	——	——	——	——	——	——	——	——
4	Mon.	Dig.	——	Tet.	——	——	——	——	——	——	——
5	Mon.	Dig.	Tri.	Tet.	Pen.	——	——	——	——	Pol.	——
6	Mon.	Dig.	Tri.	——	——	Hex.	——	——	——	Pol.	——

	1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	10th.	12th.	16th.
7	Mon.	——	——	Tet.	——	Hex.	Hep.	——	——	——	——
8	Mon.	Dig.	Tri.	Tet.	——	——	——	——	——	——	——
9	Mon.	Dig.	Tri.	——	——	——	——	——	——	——	——
10	Mon.	Dig.	Tri.	Tet.	Pen.	——	——	——	Dec.	——	——
11	Mon.	Dig.	——	——	Pen.	——	——	——	——	Pol.	——
12	Mon.	Dig.	——	——	Pen.	——	——	——	——	Pol.	——
13	Gym.	Ang.	——	——	——	——	——	——	——	——	——
14	Silic.	Siliq.	——	——	——	——	——	——	——	——	——
15	——	——	Tri.	——	Pen.	——	Hep.	——	Dec.	Pol.	——
16	——	——	——	——	——	Hex.	——	Oct.	Dec.	——	——
17	Æq.	Sup.	Frus.	Nec.	Seg.	——	——	——	——	——	——
18	Mon.	Dia.	——	——	Pen.	Hex.	——	——	Dec.	——	——
19	Mon.	Dia.	Tri.	Tet.	Pen.	Hex.	——	——	——	Pol.	Mon.
20	——	Dia.	Tri.	Tet.	Pen.	Hex.	——	Oct.	Dec.	Pol.	Mon.
21	Fil.	Mus.	Hep.	Alg.	Lich.	Fun.	——	——	——	——	——

Explanations. Under class 13, *nospermia* and *iospermia*, are added: under 14, *ulosa*, *uosa*. See each order in the dictionary.

*NATURAL ORDERS OF JUSSIEU;

IMPROVED BY SUBDIVISIONS MADE BY BROWN, LINDLEY, DE CANDOLLE, AND OTHERS.

The Natural system of Jussieu is founded upon characters greatly resembling, in principle, those which Linneus considers as artificial. But notwithstanding this artificial appearance, the application of these characters forms the basis of a system which is truly natural.

Plants are distributed into three grand divisions by their seeds. Those plants whose seeds consist chiefly of two fleshy parts, called *Cotyledons*, as the pea, bean, &c. constitute the largest subdivision; called the *Dicotyledonous* division. Those whose seeds consist (excepting the albumen) chiefly of a single cotyledon, as wheat, barley, Indian corn, &c. constitute a smaller subdivision, called the *Monocotyledonous* division. Those, whose seeds contain no fleshy mass; having nothing analagous to the cotyledon, excepting a thin membrane in some cases, as the mosses, lichens, fungi, &c. constitute the least known subdivision, called the *Acotyledonous* division.

These grand divisions are subdivided into orders, by a general enumeration of natural characters. The *Acotyledonous* division is directly distributed into six natural orders. But the other two divisions are first distributed into classes, and these classes into ninety-four natural orders, making in the whole one hundred orders.

The two cotyledonous divisions are distributed into classes by the

*The following brief view of the most accessible arrangement of the Natural Method, gives sufficient descriptions for the practical botanist. But a more minute description is added to the *suborders* under 34 of the Cotyledonous orders (most important) as subjects for the exercise of students. These are designated by figures in parentheses, following the names of the orders. See Exercises, at page 24.

relative position of the germ and the organs of the flower nearest to it. The three positions of these organs are, on the top of the germ, around the germ, and below the germ. The *Monocotyledonous* division is divided into three classes. One class has the stamens on the top of the germ, another has them around the germ, and the third has them below the germ. The *Dicotyledonous* division has nine classes constructed upon the same general plan. The first three classes contain plants *without corols*, the second three classes contain plants with *monopetalous corols*, the third three classes contain plants with *polypetalous corols*. This grand division contains eleven classes however. One of these extra numbers is constituted by subdividing one of the nine classes by the union and separation of anthers. And the other extra number, is chiefly founded on the *diclinious* character of the plants embraced in it. It is, however, the most defective class.

ACOTYLEDONOUS PLANTS,

Never bear flowers in which the stamens are manifest; and even the pistils are doubtful. The substance of these plants is composed of spherical or spheroidal cells, entire or more or less compressed; but never arranged in the form of spiral vessels or fibres. Seeds destitute of a corcle. Such plants are called Cryptogamous or Cellularous; as mushrooms, mosses, seaweeds, &c.

COTYLEDONOUS PLANTS.

Both Dicotyledonous and Monocotyledonous plants bear flowers, in each species of which both stamens and pistils are always manifest. The substance of these plants is composed of a combination or tissue of spherical or of spheroidal cells, entire, or more or less compressed by each other, with a greater or less proportion of them arranged in the form of spiral vessels and ducts; and often so as to form the woody fibre.

The leaves consist of a parenchymous substance and veins of woody fibre and spiral vessels. The seeds always have a corcle consisting of an ascending and descending part, or rudiments of the herbage and root. Such plants are called Phenogamous, or Vascularous; as oaks, grapes, peas, grass, corn, lilies.

FIRST GRAND DIVISION.

ACOTYLEDONOUS PLANTS.

They have no cotyledonous seeds; but a kind of grain-like body, (as a substitute for seeds) lying in the substance of the plant, (called sporules) without any covering analagous to the cotyledonous seeds. The substance of these plants is composed wholly of a combination, or tissue, of spherical cells, more or less compressed. They contain no fibres or spiral tubes; but have ring-like ducts in a few cases. They are always flowerless, have no proper stamens, nor pistils, nor trunks.

TRIBE I. APHYLLAE.

Leafless plants, which have seeds (sporules) lying naked in the substance of the plant. This tribe includes the Fungi, Lichenes, and Algae.

TRIBE II. MUSCOIDEAE.

Moss-like plants, which have stems and frequently leaves. Their seeds have a covering contained in a kind of capsule (theca) which has a movable lid at the top, in proper *mosses;* but is wanting in the *liverworts*, &c. called Hepatic mosses by some.

TRIBE III. FILICOIDEAE.

Fern-like plants, which have stems and distinct leaves. But the stems are not proper trunks; being rather composed of the united bases of fronds. Their seeds (sporules) have a covering, and are contained in a kind of capsule or theca. Most of the vegetable fossils of coal formations belong to this tribe. Brongniart believes they constituted chief of the original vegetation of the globe. From a mere inspection it appears that charred ferns of a gigantic size, constitute most of the coal beds of Pennsylvania. The Naiades of this order are considered, by some, as phenogamous.

SECOND GRAND DIVISION.

MONOCOTYLEDONOUS PLANTS,

Have nearly cylindrical trunks, when a terminal bud, only, is developed. Each appears to take off its numeric proportion; that is, to subdivide the trunk and to take its numeric share of its volume. The trunk increases by additions interiorly, called Endogenous, having no deposit of camb outside of the wood. Leaves often sheathing the stem at their bases as Indian corn and all proper grasses. Divisions of flowers mostly in threes or in some multiple of three.

TRIBE I. GLUMACEAE.

Monocotyledonous plants which bear glume calyxes. These are a kind of imbricated bracts, or chaffs. They originate at different heights; and are thus distinguished from proper calyxes. These are grasses and grass-like plants.

TRIBE II. PETALOIDEAE.

Monocotyledonous plants which bear petals, rarely with naked stamens, never with glumes. Calyx and corol sometimes combined; rarely with both distinct. Some have a spathe calyx. These are lily-like, asparagus-like, wild-turnip-like, orchis-like, &c.

THIRD GRAND DIVISION.

DICOTYLEDONOUS PLANTS,

Have terete trunks (if any) consisting of bark, wood and pith; and increasing by an annual deposit between the bark and wood, called Ex-

ogenous. Leaves with branching, net-like veins. Flowers most commonly having the calyx and corol divided into five parts, or into a multiple of five; and the whole flower is scarcely, if ever in threes, but may be some multiple of two. 226 Natural orders of Lindley have the seeds enclosed in pods, shells, or coats, proceeding from the germs. They are called Angiospermia. And two orders (Cycadeæ and Conifereae) have the seeds naked, called Gymnospermia. The former have proper stigmas; the latter have holes in the germs as a substitute for stigmas.

TRIBE I. GYMNOSPERMIA,

Have the seeds absolutely naked; there being neither membrane, minute caducous fruit, nor any other envelope outside of the cuticle of the seed.

Plants of this tribe are intermediate between the Flowering, and the Cryptogamous of the herbaceous kind. It is an important tribe among vegetable fossils. The groundpines and the real pine tribe, (Lycopodium and Conifera) seem to have been united in their characters, when those plants flourished, whose substance now composes our fossil coal beds, mostly. These plants then had, and the living species still have, large visible perforations in their cells.

TRIBE II. ANGIOSPERMIA,

Have not always the covering to the seed required by Linneus for the order Gymnospermia of the class Didynamia. But this tribe is thus named on account of the often unobserved covering outside of the cuticles of the seed. It embraces the greatest proportion of flowering plants.

Corol Monapetalous.

The sections of the corol, or petals, adhere by their edges and form a tube or ring at the base; though they are elementary whorls of leaves.

Corol Polypetalous or wanting.

The polypetalous plants may have both calyx and corol. When the calyx is present and corol wanting, it is called Apetalous. When neither calyx nor corol is present, it is called Achlamydious. N. B. In this case, when but one organ is present, it is called calyx by some botanists in all cases.

FIRST GRAND DIVISION.

ACOTYLEDONOUS PLANTS.

ORDER I. FUNGI.

Leafless, flowerless plants, with no thallus or external sporuliferous disks, and growing in air. They are only distinguished from Lichens by their more fugitive nature, their more succulent texture, their want of thallus or expansion independent of the part that bears the reproductive matter, and by the latter being contained within their substance

and not in hard distinct nuclei originating in the centre and breaking through a cortical layer, From Algae there is no absolute character of division, except their never growing in water. In fact it is rather the medium in which Fungi and Algae are developed, that distinguishes them, than any peculiarity in their own organization. Fungi are almost universally found growing upon decayed animal or vegetable substances, and scarcely ever upon living bodies of either kingdom: in which respect they differ from Lichens, which very commonly grow upon the living bark of trees, &c. In their simplest form they are little articulated filaments, composed of simple cellules, placed end to end. In a higher state of composition, Fungi are masses of cellular tissue of a determinate figure, the whole centre of which consists of sporules either lying naked among filaments, as in Puff-balls, or contained in membranous tubes or sporidia, like the thecae of Lichens, as in Sphærias. In their most complete state they consist of two surfaces, one of which is even and imperforate, like the cortical layer in Lichens: the other separated into plates or cells, and are called the hymenium, in which the sporules are deposited. Some writers have entertained doubts of their being more than mere fortuitous developements of vegetable matter, called into action by special conditions of light, heat, earth and air. They certainly grow with a degree of rapidity unknown in other plants, acquiring the volume of many inches in the space of a night, and are frequently meteoric: that is they spring up after storms, or only in particular states of the atmosphere. The Fungi by which most extra-tropical countries are inhabited are so numerous, that no one can safely form even a conjecture as to the number that actually exists. Of tropical species we know but little, on account of their fugitive nature and the difficulty of preserving them. *Tonic and nutrientic, if dry or dryish; poisonous if deliquescent.* See genera, p. 131.

ORDER II. ALGAE.

This Natural Order of Jussieu includes the Algae proper and Lichenes. The best distinction is to be found in their place of growth.

1. Algae flourish in water and in damp places: often nearly excluded from air.

2. Lichenes require much air, light, and dry situations.

FIRST SUBDIVISION; OR ALGAE PROPER.

This order is constituted of sea-weeds, and a scum-like substance, vulgarly called frog-spittle, or green hair. They are mostly cylindrical, capillary, or membranaceous. Their substance is mostly gelatinous. Color, mostly green, sometimes purple or olive. Little is known of their productive organs. They seem to be intermediate between Fungi and Lichenes. Often they seem to approach animals of the class Polypi. In truth, some sea-weeds resemble some species of Gorgonia and Spongia so nearly, that it is difficult to distinguish them without testing by the odor after burning. We might say, that Algae, are semi-organic substances, waiting for the application of a specific living principle, of sufficient energy to bring them into organic forms. *Detergent, vermifuge and solvent.* See genera, p. 125.

SECOND SUBDIVISION; OR LICHENES.

Aerial, leafless, flowerless, perennial plants, with a distinct thallus, and external disk containing sporules. Often spreading over the surface of the earth, or rocks or trees in dry places, in the form of a lobed and foliaceous, or hard and crustaceous, or leprous substance, called a thallus. According to Fries, Lichens are types of Algae, born in the air, interrupted in their developement by the deficiency of water, and stimulated into forming a nucleus (or receptacle of sporules) by light. No Lichen is ever sub-merged; there are none of which the vegetation is not interrupted by the variable hygrometical state of the atmosphere; and finally, none that ever develope in mines, caverns, or places deprived of light. On this account, their shields are more rare in the fissures of mountains, or in shady groves, than in places fully exposed to light. In wet places, also, their shields are not produced; for, so long as they are under the influence of water they are scarcely distinguishable from Algae. Lichens consist of a medullary and a vertical layer of tissue, of which the former is imperfectly cellular or filamentous, and bursts thro' the latter in the form of shields, which contain a nucleus, consisting of a flocculose-gelatinous substance, among which lie the cases. In the beginning Lichens are stated to be in all cases developed in humidity, and to be, in fact, at that time, mere Confervae; but as soon as the humidity diminishes, the under part dies, and an inert, leprous crust is formed, which ultimately becomes the basis of the plant. *Some used in dyeing: all tonic more or less.* See genera, p. 128.

ORDER III. HEPATICAE.

Reproductive organs of two kinds. 1. Capsule (theca) *without a lid;* in which they differ from proper mosses. 2. Minute, roundish or oblong bodies variously situated. Plants frondose; not sub-mersed.

This order is distinguished from Algae by the capsule and leafy frond, which is never sub-mersed. The genera of this order are considerably different. The herbage consists of variously expanded fronds, lying flat on what it grows upon. The substance is generally loosely cellular, rarely compact.

The most remarkable point of structure in this order is the spiral filament, as it is called lying among the sporules within the theca. This consists of a single fibre, or two, twisted spirally in different directions, so as to cross each other, and contained within a very delicate transparent, perishable tube. They have a strong elastic form and have been supposed to be destined to aid in the dispersion of sporules. *Slightly stimulant.* See genera, p. 124.

ORDER IV. MUSCI.

Mosses are distinguished from all other relative plants, by the peculiar nature of the reproductive organs, which are of two kinds. The principal and the most obvious is a *theca* which is furnished with an operculum or lid, by means of which the sporules are retained in the theca, and a columella, or central axis, to which they are attached. The other consists of minute spherical pedicellated organs, concealed in the axils of some of the leaves, and called anthers by Hedwig. The theca

is either entire, or split into four parts; when in a very young state it is inclosed in an indusium, which is torn asunder as the theca is elongated, and being carried up with it, remains upon the summit of the theca in the form of a little extinguisher called calyptre; if the calyptre is slit up one side it is called dimidiate, if divided at the base into many short clefts, it is termed mitreform. The orifice of the theca, when the operculum is removed, is either covered by a simple membrane, or by various processes called the peristome, either annular, or in the form of teeth, and arranged in a single or double row. These processes vary in number, and in the manner of their division: from such differences excellent characters for the genera have been obtained. Their number is always four, or some mutiple of four; as 4, 8, 16, 32, 64. *Axillary bodies;* cylindrical or fusiform stalked scars, containing a multitude of spherical or oval particles, which are emitted upon the application of water. These have been called *anthers* by some. *Astringent.* See genera, p. 121.

ORDER V. FILICES.

Ferns and fern-like plants. They are flowerless plants, with a stem having a vascular system and distinct leaves. Their seeds are contained in capsules (theca.) These are dorsal or axillary to the frond. This Natural Order of Jussieu, may be properly divided into the following sub-orders.

A. *Equisetaceæ.* Plants with seeds (sporules) surrounded by elastic clavate filaments, and inclosed in capsules (theca) arising from the scales of terminal cones. Vernation straight. *Astringents, diuretics, diaphoretics.*

B. *Filices.* Plants with seeds inclosed in capsules, arising from the back or margin of the leaves, or naked upon the back of leaves, transformed into sub-spikes or panicles. *Pectorals*—also *deobstruents, febrifuges*, and *sudorifics.*

C. *Lycopodiaceæ.* Plants with seeds (sporules) enclosed in axillary capsules, (thecae.) Vernation circinal. Stems often creeping: leaves imbricate. Used in dyeing wool. *Stimulants.*

The Lycopodeacae approach the Coniferae (pines and cedars,) by way of the Cycadeæ. These two orders bear the only real naked seeds without any membranous or other covering, found in the whole Vegetable kingdom.

D. *Marsileaceae.* Plants with their seeds inclosed in capsules which are embraced within close involucres. Creeping or floating. *Stimulants causing nausea.*

EXERCISES IN THE NATURAL ORDERS.

Select seeds and pericarps from the plants set in the synopsis (page 24 and on) under the SUB-ORDERS of any ORDER, whose name is followed by a figure in a parenthesis in the following descriptions. Bring the seeds to a state of incipient germination, by laying them on a table-plate, covered with a cloth, to be kept wet by daily sprinkling. Carry on the germination, and examine the seeds daily. Compare their parts with the descriptions given under their respective sub-orders. See note on page 18.

6. 7. 8. BELOW PISTIL. SUB-PETALOID.

ORDER VI. NAIADES.

Water Nymphs; godesses of rivers and springs. A small order of aquatics, whose fructification is obscure; inhabitants of ponds and rivulets. They give off a fetid odor, always brittle and of a dull-green colour.

A. *Characeae.* Submersed, leafless water plants, having slender whorled, leaf-like branches and caducous capsules. Stem consisting of parallel tubes often crusted. Organs of reproduction in the uppermost whorl; round succulent globules containing filaments and fluid; and axillary *nucleus*, formed of a few short tubes twisted in spirally. *Astringent and narcotic.*

SECOND GRAND DIVISION.

MONOCOTYLEDONOUS PLANTS.

Flowers mostly in ternary divisions, which may be doubled, tripled, &c. Calyx and corol often alike in color, and texture; or one of them absent. Substance cellular, with bundles of spiral vessels. Stem without distinct bark, wood, or pith; increasing by central additions of matter. Leaves with collateral unbranched veins, connected by smaller transverse ones. The leaves scarcely ever exhibit any articulations with the stem: consequently do not fall off by the disjointing process.

CLASS FIRST.

Stamens below the pistil.

Flowers sub-petaloid.

ORDER VII. AROIDEAE.

Flowers monoecious, sessile on a spadix, and without perianths: stamens intermixed with pistils: sub-acaulis. (Wild turnip-like.)

A. *Aroideae.* Spadiceous, with simple succulent, or capsular fruit, a developed spathe and sub-sessile anthers. Flowers diclinous. Herbaceous or shrubby. Leaves sheathing. Prop. *Acrid.*

B. *Juncagineae.* Caulescent exalbuminous, with a slit embryo, 6 stamens, and dry superior fruit with erect seeds. Bog plants with ensiform leaves. Spiked or racemed. *Tonic and cathartic.*

C. *Fluviales.* Caulescent floating exalbuminous, with a slit embryo, definite stamens, and dry superior fruit with pendulous seeds: water plants. *Feeble tonics.*

D. *Pistiaceae.* Floating, very cellular, stems and leaves confounded: flowers spathaceous, solitary, naked. *Stimulant, acrid.*

ORDER VIII. TYPHAE.

Flowers monoecious with 3-leaved perianths, stamens 3, style 1. Aquatics, jointless. (Cat-tail-like.)

8. 9. 10. 11. 12. SURROUNDING PISTIL. PETALOID.

A. *Typhaceae.* Spadiceous, with 3 half-glumaceous valves: anthers clavate; filaments long, lax; germ solitary, pendulous. Stems without joints; leaves ensiform. No spathe calyx.

Flowers glumaceous.

ORDER IX. CYPEROIDEAE. (2)

Flowers glumaceous, in spikes or spikelets, glume 1-valved—no proper perianth. Style 1, stamens 2 or 3. Seeds without pericarp. Grassy, perennial, coarse. No open sheaths to the leaves. (Sedge-grass-like.)

A. *Cyperaceae.* Stems angular, leaf-sheaths entire: ovary 1-seeded, ovulum erect, nut crustaceous or bony, albumen of the form of the seed, embryo undivided, included in the albumen, plumula *inconspicuous.* Diclinous. Root fibrous. *Farinaceous, nutritious, sugary.*

ORDER X. GRAMINEAE. (3)

Flowers glumaceous, generally in spikes and spikelets; but sometimes solitary; outer glumes generally 2-valved: stamens 3, stigmas two, plumose and capillary. Seed farinaceous, without pericarps: culm jointed, leaves with open sheaths. (Grass-like.)

A. *Gramineae.* Plants glumaceous with cylindrical stems and slit leaf-sheaths. Seed covering not a pericarp, but a membrane, as the bran of ground wheat: albumen farinaceous (producing flour or meal when ground;) embryo lying on one side of the base [being the chit] of the albumen—it is lenticular, with a broad cotyledon and *developed* plumula. *Cattle-fodder, farinaceous food, tonic.*

CLASS SECOND.

Stamens surrounding the pistil, above its base.

Flowers Petaloid.

ORDER XI. PALMAE.

Calyx 1-leaved: corol none: stamens mostly six; styles 1 to 3: stem cylindrical, made scaly by the permanent bases of the leaves. (Palm-like.)

A. *Palmae.* Six-petalled, arborescent; leaves divided, rigid; germ superior 3-celled, and an embryo lies in a cartilaginous or fleshy albumen, at a distance from the hilum. Furnishes *food, oil, wine, and tonic remedies.*

ORDER XII. ASPARAGI. (4)

Flowers with petaloid perianths, generally 6-parted: stamens adhering to the same base with the calyx or corol: berry 3 or 4-celled, 1 or 4-seeded. (Asparagus-like.)

A. *Smilaceae.* Six-petalled; germ superior; anthers turned inwards;

12. 13. 14. 15. 16. SURROUNDING PISTIL. PETALOID.

perianth colored: fruit succulent, 3-celled, seed-covering membranaceous: albumen fleshy and approaching the cartilaginous structure, embryo usually distant from the hilum: style triple. *Diuretic, and demulcent.*

B. *Dioscoreae.* Six-petalled: germ inferior; diclinous: perianth regular small: seeds flat compressed, in leaf-like fruit; embryo small, near the hilum, lying in a large cavity of cartilaginous albumen. *Nutritious tonic.* (Yam-like.)

ORDER *XIII.* JUNCI.

Flowers with small spathes, or spathe-like bracts, and free 6-parted perianths. (Rush-like.)

A. *Alismaceae.* Three-petalled, with numerous distinct, superior germs. Aquaticts: leaves with sub-parallel veins: fruit dry, not opening; seeds without albumen: embryo horse-shoe form, undivided, the same direction as the seed. *Stimulating and acrid.*

B. *Commelineae.* Three-petalled; have superior 3-celled capsules. Seeds often twins, with a linear hilum; embryo pulley-form, in a cavity of the fleshy albumen remote from the hilum. *Feeble tonics.*

C. *Xyrideae.* Three-petalled, with superior concrete carpella with a 1-celled capsule and a parietal placentae and capitate flowers: seed with the embryo outside of the albumen, most remote from the hilum; leaves radical, ensiform. *Antiscorbutic.*

D. *Juncaeae.* Six-petaloid, herbaceous, with a superior germ, a half-glumaceous regular perianth, a pale soft testa, a single style, capsular fruit, and an embryo next to the hilum: within the firm fleshy albumen. *Weak tonics.*

E. *Melanthaceae.* Six-petaloid, carpella nearly separate; anthers turned outwards. Germs superior; seed with a membranous testa; albumen dense fleshy. *Poisonous, Antiscorbutic.*

ORDER *XIV.* LILIACEAE. (5)

Liliaceous 6-petalled or 6-parted corols; stamens 6; style one; stigmas 3 or 3-lobed; capsules 3-celled, seeds flat.

A. *Liliaceae.* Six-petalled germ superior, highly developed corol, (colored calyx of some,) anthers turned inwards, a 3-celled, many-seeded capsule: seeds with a soft spongy coat, packed one upon another; embryo with the direction of the seed, in the axis of the fleshy albumen. *Diuretics, Emollients.*

ORDER *XV.* BROMELIA.

Calyx permanent: stigma 3-lobed: fruit capsular; embryo recurved. (Pine apple-like.)

A. *Bromeliaceae.* Three-petalled, 6 stamens: germ inferior, and an albuminous embryo. *Refrigerants, Cathartics.*

ORDER *XVI.* ASPHODELI. (6)

No perianths, but some have spathes: corols 6-parted or 6-cleft: stamens 6: seeds round or angled. (Hyacinth-like.)

16. 17. 18. 19. 20. ON THE PISTIL. PETALOID.

A. *Asphodeleae.* Six-petaloid or 6-parted: germ superior: anthers turned inwards: fruit 3-celled: seed with a hard black brittle testa; albumen fleshy including the embryo. Peduncles articulated in the middle. *Bitter stimulant,* some are excellent expectorants and absorbents.

ORDER *XVII.* NARCISSI. (7)

Mostly have spathes and no perianths: corols 6-parted, or 6-petalled: stamens 6: germ attached to the corol. (Daffodil-like.)

A. *Hypoxideae.* Six-petaloid: germ inferior: corol 6-parted (called perianth by some) with equitant divisions: seeds, with a black brittle integument and a lateral beak-like hilum; embryo in the axis of a fleshy albumen, its radicle having no certain direction. *Feeble tonics.* (Star-grass-like.)

B. *Amaryllideae.* Six-petaloid, bulbous, 6-stamened: germs inferior; corol 6-parted with equitant divisions; seeds with fleshy albumen, embryo nearly straight, and radicle turned towards the hilum. Leaves ensiform. *Stimulants and some poisonous.*

C. *Pontederaceae.* Six-petaloid: corol irregular: germ superior. Corol involute after flowering: seeds indefinite, attached to a central axis: hilum small; embryo turning-straight, being in the axis of somewhat mealy albumen. Aquatics. *Weak tonics.*

ORDER *XVIII.* IRIDES.

Corol 6-cleft or 6-parted: stamens 3; style 1, with 1 to 3 stigmas; germ attached to corol: leaves ensiform or linear: root bulbous or tuberous. (Iris-like.)

A. *Haemodoraceae.* Six-petaloid: germ inferior: a woolly tubular perianth, with equitant divisions, and farinaceous albumen. Leaves equitant. Albumen farinaceous. *Tonic.*

B. *Irideae.* Six-petaloid, triandrous: germ inferior: anthers turned outwards: leaves equitant, except the crocus. *Slightly stimulating, some are poisonous.*

CLASS THIRD.

Stamens on the pistil or style.

Flowers petaloid.

ORDER *XIX.* MUSAE.

Spathaceous: corol 6-parted, irregular; stamens 6: anthers linear, turned inwards: germ many-seeded. (Banana-like.)

A. *Musaceae.* Six-petaloid, sub-hexandrous, spathaceous: germ inferior: leaves with veins diverging from the midrib to the margin. Musa yields a flaxen bark of which the best muslins of India are made. Its fruit is highly nutritious. Tonic.

ORDER *XX.* CANNAE.

Calyx 3-parted, short: corol tubular, irregular: stamens 3, petaloid; fruit capsular; seeds round.

21. 22. 23. 24. AROUND THE PISTIL. NO PETALS.

A. *Marantaceae.* Three petaloid: a singled 1-celled anther and a petaloid filament. *Nutritious, tonic, demulcent.*

ORDER XXI. ORCHIDEAE. (8)

Corols 5-petalled (3 external and 2 internal) have petal-like nectary: anthers 2 or 1, on the side of the style or at the apex: stigma viscid: leaves mostly nerved: germ 1-celled with three parietal placentæ: seeds parietal, very numerous; testa loose, reticulated; no albumen, embryo a solid, undivided, fleshy mass. (Orchis-like.)

A. *Orchideae.* Gynandrous with three parietal placentae; leaves entire, simple. *Nutritious, emollient.*

ORDER XXII. HYDROCHARIDES.

Aquatics: germs simple; stigmas 3 to 6, bifid: capsule 1 or 6-celled, many-seeded.

A. *Hydrocharides.* Three-petaloid: germ inferior: embryo without albumen, inverted. Mostly floating plants. Spathaceous. *Weak tonics;* somewhat *nutritious.*

THIRD. GRAND DIVISION.

DICOTYLODENOUS PLANTS.

Flowers mostly in quinary divisions, which may be doubled, tripled, never ternary, but sometimes binary. Substance cellular with spiral vessels. Stems, with distinct bark, wood and pith; increasing by additions of matter deposited between the wood and bark. Leaves always articulated with the stem, and fall off by disjointing; their veins branching and reticulated.

Section first. Flowers apetalous.

CLASS FOURTH.

Stamens on the pistil.

ORDER XXIII. ARISTOLOCHIAE.

Perianth 1-leaved, adhering to the germ: stamens numerous (6 to 12) attached to the germ: style short, stigma divided: capsule many-celled (about 6,) many-seeded.

A. *Aristolochias.* Ovules indefinite: germ many-celled: calyx valve-like, sub-monoecious; calyx superior, tubular: style axillary, dull, solitary. *Tonic* and *stimulating.*

CLASS FIFTH.

Stamens around the germ above the base.

ORDER XXIV. ELAEAGNI.

Calyx adheres to the germ, monophyllus, tubular; stamens stand towards the top of the calyx; fruit 1-seeded.

24. 25. 26. 27. 28. 29. AROUND THE PISTIL. NO PETALS.

A. *Elaeagneae.* Apetalous, with definite erect ovules: a tubular inferior calyx, with alternating stamens; leaves leprous; mostly dioecious: calyx rather inferior. Trees or shrubs covered with leprous scales; leaves alternate or opposite, entire, stipuled. *Tonic.*

ORDER *XXV.* THYMELEÆ.

Calyx free, 1-leaved, 4 or 5-lobed, colored: stamens on calyx; fruit 1-seeded. Woody; leaves simple, alternate.

A. *Santalaceae.* Apetalous, with pendulous ovules, flowers solitary; germ 1-celled: calyx sub-superior, tubular. *Refrigerant, sedative.*

B. *Thymeleae.* Apetalous, with definite pendulous ovules; germ superior, 1-celled: leaves without stipules. Shrubby. Flowers in heads or spikes. *Caustic, cathartic.*

ORDER *XXVI.* PROTEAE.

Calyx 4-leaved or 4-cleft: stamens 4: germ superior: style simple. Shrubs. Leaves hard and dry.

A. *Proteae.* Ovula erect, definite, dehiscent: calyx tubular, inferior: aestivation valvate. Shrubs or small trees. *Weak tonics.*

ORDER *XXVII.* LAURI.

Monophyllous calyx, permanent, 4 to 6-cleft or parted: stamens at the bottom of divisions of calyx: anthers adnate to the filaments. Germ 1, style 1. Woody, leaves alternate. (Sassafras-like.)

A. *Laurineae.* Aromatic, with definite suspended ovules, and bursting by recurved valves. Trees and shrubs: flowers panicled or umbelled. *Aromatic, stomachic, warming.*

ORDER *XXVIII.* POLYGONEAE.

Calyx monophyllous, often colored: stamens in the bottom of the calyx. Germ one, stigmas several; seeds single, farinaceous.

A. *Polygoneae.* Calyx and corol in one; ovula erect, definite; stipules ochreous; radicle distant from the hilum: leaves alternate, stipuled. *Cathartic, cooling.* (Buck-wheat-like.)

B. *Begoniaceae.* Germ 3-celled, winged: ovules on indefinite irregular imbricate calyx: stipules membranaceous. *Bitter astringent.*

ORDER *XXIX.* ATRIPLICES.

Calyx free, monophyllus, parted: stamens in the bottom of the calyx: germ 1; seed often farinaceous; leaves alternate, simple, flowers small, dull, greenish. (Spinach-like.)

A. *Chenopodeae.* Apetalous; seeds erect, with a curved embryo, radicle next the hilum: herbaceous; calyx not bracted. *Nutritious, tonic.*

B. *Phytolacceae.* Apetalous: ovula erect, definite: calyx inferior, many-leaved: stamens perigynous, distinct: germ many-celled, embryo rolled in a mealy albumen, radicle next the hilum; stigmas terminal. *De obstruent, emetic.* (Poke weed-like.)

30. 31. 32. 33. 34. BELOW PISTIL. ONE PETAL.

CLASS SIXTH.

Stamens below the germ.

ORDER XXX. AMARANTI.

Calyx free, permanent, divided, often coloured: germ 1, capsule 1-celled: seed farinaceous: flowers small.

A. *Illecebreæ.* Polypetalous: stamens opposite the divisions of the calyx; petals minute, or wanting: carpella concrete; germ 1-celled: leaves with scarious stipules. *Astringent.*

B. *Amarantaceæ.* Apetalous: seeds erect; embryo curved round a mealy albumen, radicle next the hilum; stamens hypogynous: calyx scarious bracteolate. *Diuretic nutritious.*

C. *Scleranthea.* Apetalous: a single seed attached to a cord arising from the base of the cell: calyx inferior tubular indurated: stamens perigynous, an embryo curved round mealy albumen; radicle next the hilum. *Feeble tonic.*

ORDER XXXI. PLANTAGINEAE.

Calyx double, outer one 4-parted: inner one tubular: stamens 4, adhering to the inner calyx, exsert: germ simple, style 1, capsule opening transversely, 2 to 4-celled: seeds corneous: flowers spiked: leaves nerved, mostly radical. (Plantain-like.)

A. *Plantagineæ.* Tetrandrous: inner calyx (corol of some) monophyllous: germ superior 2—4-celled; stigma simple filiform: flowers spiked; pericarp membranous, dehiscent transversely. *Emollient, astringent.*

ORDER XXXII. NYCTAGINES.

Involucre perianth-like, monophyllous, perianth monophyllous colored, permanent: stamens attached to a gland-like base of the inner calyx (corol:) style 1, capitate. Seed farinaceous.

A. *Nyctagineæ.* Apetalous: ovula ascending: calyx inferior, tubular hardening at the base: stamens hypogynous: embryo surrounding floury albumen. *Cathartic.*

ORDER *XXXIII.* PLUMBAGINES.

Calyx double, permanent; outer one monophyllous, tubular; inner one colored, 1 or many-leaved: stamens 5, adhering to the inner calyx (corol?) germ simple, free; styles many, or one with many stigmas: capsule 1-seeded.

A. *Plumbagineæ.* Germ superior, 1-celled, containing one ovulum suspended from the apex of a cord; stigma naked. *Cathartic, tonic.*

Section Second. Flowers monopetalous.

CLASS SEVENNH.

Corols below the germ.

ORDER *XXXIV.* JASMINEAE. (formerly 37.)

Calyx tubular, except Fraxinus: stamens 2, attached to the corol: seed with a flat corcle. Stem woody.

34. 35. 36. 37. 38. 39. BELOW PISTIL. ONE PETAL.

A. *Jasmineae.* Flowers regular: germ superior, 2-celled, seeds erect: stamens 2, corol imbricate. *Fragrant stomachics, tonics.*

B. *Oleaceae.* Flowers regular; germ superior, 2-celled, with pendulous seeds: stamens 2: corol valvate. Fraxinus is often apetalous. *Nutritious, tonic, febrifuge.* (Olive-like.)

ORDER XXXV. LYSIMACHIAE. (formerly 34.)

Calyx monophyllus, permanent, 4 or 5-lobed: germ free, style 1, stigma simple: capsule 1-celled, many-seeded, seed attached to a free columella, leaves simple.

A. *Primulacea.* Herbaceous: flowers regular: germ entire, superior, 1-celled with a free central placenta: fruit capsular. Herbaceous. Some are *acrid*, mostly *feebly tonic.*

B. *Lentibulariae.* Flowers irregular: germ superior, 1-celled, with a free central placenta. *Scarcely tonic.*

ORDER XXXVI. PEDICULARES. (9) (formerly 35.)

Calyx divided, permanent, often tubular: corol irregular, often ringent: stamens 2 or 4, attached to the corol, when 4 two are shorter; germ free, style simple: flowers bracted. All turn black in the herbarium.

A. *Orobancheae.* Plants destitute of green herbage, parasitical: germ superior, 1-celled: flowers irregular: seeds indefinite, very minute; embryo minute, inverted in the apex of fleshy albumen: herbaceous, leafless, of a dull yellowish white. *Astringent.*

B. *Rhinanthaceae.* Capsule superior, 2-celled: flowers irregular; bracts crested: seeds ascending, embryo minute, inverted, in fleshy albumen. *Aromatic, tonic.*

ORDER XXXVII. SCROPHULARIAE. (10) (formerly 40.)

Calyx divided: corol irregular: stamens mostly 4, 2 shorter: germ free, style 1. Seeds numerous, affixed to the middle partition.

A. *Scrophularineae.* Capsule superior, 2-celled: flowers irregular: seeds indefinite, embryo included within fleshy albumen; radicle turned towards the hilum. *Acrid, poisonous, antiscorbutic.*

ORDER XXXVIII. SOLANEÆ. (11) (formerly 41.)

Calyx 5-cleft or 5-parted, often permanent: corol regular, 5-cleft; mostly of a lurid hue: stamens 5; germ free, style 1; stigma simple or sub-cleft. Fruit 2-celled, many-seeded. Corcles of seed spiral.

A, *Solaneae.* Flowers regular: germ superior 2-celled; ovules indefinite; corol plaited: fruit succulent; leaves alternate: seeds numerous sessile: embryo more or less curved; often out of the center, lying in fleshy albumen; radicle next the hilum. *Poisonous* fruit and herbage, with nutritious *wholesome roots—some roots poison.*

ORDER XXXIX. ACANTHI. (formerly 46.)

Calyx divided, permanent, often bracted: corol irregular; stamens 2 or 4: germ free, styles 1, stigma 2-lobed: capsule 2-celled.

39. 40. 41. 42. 43. BELOW PISTIL. ONE PETAL.

A. *Acanthaceae.* Capsule superior 2-celled: irregular flowers: flowers imbricated. *Emollient, aromatic, tonic.*

ORDER XL. BIGNONIAE. (formerly 45.)

Calyx divided: corol irregular, ringent, and inflated: stamens rarely 2, but mostly 4 with 2 shorter, an odd filament-like accompanies them: capsule 2 or 4-celled, 2-valved.

A. *Pedalineae.* Germ superior, becoming woody fruit; flowers irregular: seed without albumen. *Emollient.*

B. *Bignoniaceae.* Capsule superior 2-celled, with a central placenta; flowers irregular: seeds winged, exalbuminous. *Nutritious and tonic.*

C. *Myoporineae.* Flowers irregular: germ superior, 2 or 4-celled, with definite pendulous ovules, indehiscent fruit, a superior radicle and albuminous seeds. *Astringent.*

ORDER XLI. VITICES. (formerly 38.)

Calyx tubular; corol tubular: stamens 4, 2 of them shorter—(rarely 2 or 6:) germ free, style 1, stigma simple or 2-lobed: seed with a strait corcle: leaves opposite.

A. *Verbenaceae.* Germ superior undivided, a terminal style: flowers irregular: fruit indehiscent, 2 to 4-celled, opposite to the leaves: seeds solitary with an inferior radicle. *Diuretic and moderately tonic.*

ORDER XLII. LABIATEAE. (12) (formerly 30.)

Calyx tubular: corol irregular, or 2-lipped: stamens mostly 4, 2 of them shorter: seeds 4 naked, stigma 2-cleft; stems 4-sided; leaves opposite.

A. *Labiatae.* Germ superior, 4-lobed: flowers irregular: flowers whorled, spiked, or capitate: seeds erect, with little or no albumen; embryo erect, cotyledons flat. *Stomachic, tonic.*

ORDER XLIII. BORAGINEAE. (13) (formerly 42.)

Calyx 5-lobed: corol 5-lobed, tubular, bordered, with the throat open or choaked with scales: leaves alternate, mostly scabrous. Stamens 5; style 1.

A. *Borragineæ.* Flowers regular: germ superior, deeply lobed: stems round: nuts 4, distinct: seed separable from its integument, (affectedly called pericarp,) without albumen; embryo with a superior radicle: cotyledons parallel with the axis, plano-convex, (sometimes the cotyledons are double.) *Emollient and astringent.* (Borage-like,)

B. *Heliotropieæ.* Flowers regular: germ superior, 4-celled with solitary pendulous ovules: seeds with plano-convex cotyledons, exalbuminous, pendulous, solitary: embryo with minute radicle curved downwards, and turned towards the hilum. *Astringent.* (Turnsol-like.)

C. *Hydrophylleæ.* Flowers regular: germ superior, 1-celled, with ovules attached to parietal, or fungous, stalked placenta: stigma naked: embryo terete, lying towards the end of the abundant, sub-cartilaginous albumen; radicle superior, next to the hilum. *Emollient, feebly tonic.*

44. 45. 46. 47. 48. BELOW PISTIL. ONE PETAL.

ORDER XLIV. CONVOLVULI. (formerly 43.)

Calyx and corol 5-lobed: stamens 5, attached to the corol and alternating with its divisions; columella central, 3-cornered: seed bony cotyledons folded together: leaves alternate.

A. *Convolvulaceae.* Germ 2 to 4-celled: flowers regular: ovules definite erect: corol plaited: cotyledons shrivelled. *Roots mostly cathartic.* (Bind-weed-like.)

B. *Hydroleaceae.* Germ superior, 2 or 3-celled, styles several: seeds indefinite: corol plaited or imbricated. *Tonic.*

ORDER XLV. POLEMONIA. (formerly 44.)

Corol regular, 5-lobed: stamens 5, attached to the middle of the tube of the corol: style simple, stigmas 3, or 3-cleft: columella central 3-cornered: seed with straight corcle: flowers opposite.

A. *Polemoniaceae.* Flowers regular: germ superior 3-celled, peltate or ascending ovules, and a pentandrous 5-parted corol: aestivation imbricated. *Scarcely tonic.*

ORDER XLVI. GENTIANEAE.

Calyx monophyllous, permanent: corol regular: limb equally divided: stamens generally 5, attached to the corol. Capsule 1 or 2-celled, many-sedeed. Glabrous bitter plants.

A. *Gentianeae.* Flowers regular: germ superior, 1 or 2-celled: corol withering, imbricated: seeds indefinite: fruit capsular: leaves sessile, entire. *Very tonic.* (Gentian-like.)

B. *Spigeliaceae.* Flowers regular: germ superior, 2-celled, with several ovules: corol valve-like: fruit dry: leaves opposite. *Vermifuge, cathartic.* (Pink-root-like, or Carolina pink.)

ORDER XLVII. APOCYNEAE. (14)

Calyx 5-lobed, regular, generally with 5 nectariferous horns or appendages: stamens 5, suspended from the 5 angles of the stigma which is tub-from: germs free, stigma capitate, follicles elongated. (Dog-bane-like.)

A. *Asclepiadeae.* Germ double superior, apex of which is connected by a dilated stigma: flowers regular, pollen glutinous, corol contorted: seeds numerous, imbricated, pendulous: albumen thin: embryo straight; cotyledons foliaceous; radicle superior: plumula inconspicuous. *Acrid, stimulating, emetic, sudorific.* (Milk-weed-like.)

B. *Apocyneae.* Germ superior, double; apex connected by a simple stigma: flowers regular, pollen powdery; corol contorted: seeds with fleshy or cartilaginous albumen: testa simple; embryo foliaceous; plumula inconspicuous; radicle turned towards the hilum. *Very acrid, febrifuge, emetic, sudorific.* (Wandering milk-weed-like.)

ORDER XLVIII. SAPOTAE.

Calyx divided, permanent: corol regular: germ one; stamens opposite the segments of the corol, or doubly so, shrubby: leaves alternate.

49. 50. 51. 52. AROUND PISTIL. ONE PETAL.

A. *Sapoteæ.* Germ with several cells: flowers regular, ovules erect definite: corol imbricate: seed with a bony coat. *Food, diuretic, tonic.*

CLASS EIGHTH.

Corols surrounding the germ, above the base.

ORDER XLIX. GUAICANAE.

[Guaicum is removed to 81 *Rutaceae.*] Stamens on corol or calyx: style one: fruit capsular or pulpy, many-celled each 1-seeded, shrubby; leaves alternate: flowers axillary.

A. *Ebenaceæ.* Germ superior many-celled: flowers regular, diclinous; ovules collateral definite, pendulous: corol 3—6-lobed, with stems a multiple of the lobes: seeds albuminous. *Nutritious, tonic.* (Ebony-like.)

ORDER L. RHODENDRA. LI. ERICÆ. (15)

Calyx permanent, 4 or 5 divided: germ free; style 1, stigmas 2: fruit many-celled, many-seeded; seeds with strait corcles: stems more or less woody.

B. *Ericeæ.* Shrubby without stipules: flowers regular: germ superior, many-seeded: style single; anthers 2-celled, dry, appendaged; seeds without wings, minute with the embryo in the axis of a fleshy albumen: testa firmly adhering to the nucleus; radicle opposite the hilum. Leaves evergreen. *Diuretic, astringent.*

C. *Vaccineæ.* Germ inferior: corol regular: fruit succulent: ovules indefinite; anthers spurred: leaves alternate: seeds minute: embryo straight, in the axis of a fleshy albumen: cotyledons very short; radicle long, inferior. *Astringent, tonic, fruit refrigerant and aperient.* (Whortleberry-like.)

D. *Pyrolaceæ.* Flowers regular: germ superior, many-seeded: style single declined: anther 2 celled, dry, appendaged: seeds winged minute, embryo minute, inverted, at the extremity of a fleshy albumen. *Tonic, diuretic.* (Shinleaf-like.)

ORDER LII. CAMPANULACEÆ.

Calyx adhering to the germ: corol near the top of the calyx, often withering: stamens 5, anthers often united or so thick as to be crowded: capsule 2 to 6-celled, many-seeded: corcle strait. (Bell-flower-like.)

A. *Campanulaceæ.* Milky: germ inferior: corol regular: fruit capsular; ovules indefinite: leaves alternate: pollen round. *Mild tonics,* those with milky juice are *acrid.*

B. *Lobeliaceæ.* Milky: germ inferior: corol irregular: stamens syngenesious (united anthers) ovula indefinite; leaves alternate: pollen oval. *Acrid* when they contain milk, mostly *poisonous.*

CLASS NINTH.

Corols on the germ, anthers united.

This class of three orders of Jussieu is reduced to one order by Lindley, which he calls *Compositae.*

52. 53. 54. 55. 56. 57. 58. AROUND PISTIL. ONE PETAL.

Compositæ. Germ inferior, 1-celled: flowers capitate: stamens syngenesious: ovula erect: corol 1-petalled, ligulate or funnel-form: egret substituted for the calyx: style single with two stigmas: seed erect, without albumen, solitary, embryo terete, radicle inferior; numerous florets on a common receptacle. *Tonic bitter, secernent stimulants, carminatives.*

ORDER LIII. CICHORACEÆ. (16)

Florets all ligulate and perfect; juice generally milky: corols mostly yellow—rarely blue. *Secernant stimulants, anodynes.*

ORDER LIV. CINAROCEPHALÆ. (17)

Corols tubular: receptacles fleshy and chaffy: stigma above the style articulated: egret somewhat rigid: leaves alternate, sometimes spinose: flowers capitate. *Secernent stimulants*, if nauseous, *cathartic.* (Thistle-like.)

ORDER LV. CORYMBIFERÆ. (18)

Florets tubular ligulate, mostly radiate: receptacle scarcely fleshy: stigma above the style not articulated: inflorescence often a corymb. *Tonics and secernent stimulants.*

CLASS TENTH.

Corols on the germ, anthers separate.

ORDER LVI. DIPSACEÆ.

Flowers aggregated on a common receptacle and surrounded by a many-leaved involucre: seed with straight corcle: leaves opposite.

A. *Dipsaceæ.* Germ inferior, 1-celled: flowers capitate: anthers distinct: seeds pendulous albuminous. *Weak tonics.* (Teasel-like.)

B. *Valerianeæ.* Germ 1-celled: stamens distinct: seeds exalbuminous, pendulous. *Tonic, aromatic, vermifuge.*

ORDER LVII. RUBIACEÆ.

Calyx adhering to the germ, 4 or 5-lobed; corol regular; stamens 4 or 5 on the corol. Style 1, stigmas 2. Seeds generally two: corcle strait: leaves entire, whorled. (Madder-like.)

A. *Stellatæ.* Früit inferior didymous; ovula solitary, erect: stems angular: leaves scabrous whorled, no stipules. *Astringent, and a good dye-weed.*

B. *Cinchoneæ.* Germ inferior: leaves entire opposite, with intermediate stipules, *Powerful febrifuge, tonics.* (Peruvian bark-like.)

ORDER LVIII. CAPRIFOLIA. (19)

Calyx adhering to the germ: corol regular 4 or 5-cleft: 4 or 5-petalled: style 1 or none: leaves opposite, generally woody.

A. *Caprifoliaceæ.* Germ inferior, many-celled: ovula pendulous: leaves opposite without stipules: seeds either solitary, pendulous, or numerous and attached to the axis; testa often bony; embryo straight, in fleshy albumen; radicle superior. *Astringent, fragrant.*

58. 59. 60. 61. 62. BELOW PISTIL. POLYPETALOUS.

B. *Loranthea.* Germ inferior 1-celled: ovulum single, pendulous; stigma naked: stamens opposite to lobes of corol: seeds solitary, pendulous; testa membranaceous; embryo cylindrical, longer than the fleshy albumen; radicle naked, clavate, superior. *Astringent.*

Section third. Flowers polypetalous.

CLASS ELEVENTH.

Stamens on the germ.

ORDER LIX. ARALIÆ.

Calyx superior, 5-toothed, permanent: stamens 5; styles 2 to 5: fruit a berry; umbelled; leaves compound (Spikenard-like.)

A. *Araliaceæ.* Polypetalous: carpella concrete: germ inferior with several cells; ovula solitary pendulous: leaves sheathing at the base: flowers umbellate; embryo in the base of a fleshy albumen. *Stimulants.*

ORDER LX. UMBELLIFEREÆ. (20)

Calyx attached to germ: petals 5 on the germ: stamens 5, styles 2: fruit 2-partible, becoming 2-seeds often ribbed or grooved: inflorescence umbelled.

A. *Umbelliferæ.* Carpella concrete; germ didymous inferior; ovula pendulous: leaves sheathing at the base: fruit consists of 2 carpella (little fruit) separable at their joining sides (called commissure;) each is traversed by elevated ridges, (often appear rather to be wings;) the ridges are separated by channels; below these are fillets consisting of colored oily matter, a linear form, in the very substance of the fruit. Seeds pendulous, usually adhering firmly to their covering tegument; embryo minute, at the base of abundant horny albumen; radicle pointing to the hilum. *Stomachic,* or *narcotic,* if nauseous.

CLASS TWELFTH.

Stamen below the germ.

ORDER LXI. RANUNCULACEÆ. (21)

Polypetalous. Calyx none or many-leaved: petals many, often indefinite: stamens often indefinite: germs generally numerous, with a single style to each: seed with a minute corcle at the apex, or at the base of corneous albumen.

A. *Ranunculaceae.* Anthers bursting with longitudinal slits: carpella simple distinct: leaves sheathing: seeds without arils, embryo minute, albumen solid, hard. *Acrid, caustic, poisonous.*

B. *Hydropeltideae.* Anthers bursting with longitudinal slits: carpella simple distinct: leaves floating; seeds without arils, albumen solid, corneous; embryo minute. *Scarcely tonic.*

ORDER LXII. PAPAVERACEÆ. (22)

Polypetalous; calyx free, often 2-leaved, caducous-stamens many; germ single, style often wanting and the stigma divided, permanent;

fruit capsular, 1-celled, many-seeded, seeds attached to lateral columellas: albumen fleshy, corcle strait.

A. *Papaveraceæ.* Carpella concrete; germ 1-celled: placentæ narrow parietal: calyx in 2 parts; corol regular. Seeds numerous; albumen fleshy or oily; embryo minute straight at the base of the albumen, plano-convex cotyledons. *Narcotic, anodyne.* (Poppy-like.)

B. *Nymphaceæ.* Carpella concrete: germ many-celled. Seeds very numerous, attached to spongy dissepiments, and enveloped in a gelatinous arillus. Albumen farinaceous; embryo small, on the outside of the base of the albumen enclosed in a membranaceous bag; cotyledons foliaceous. *Sedative and narcotic.* (Pond lily-like.)

C. *Nelumbonea.* Polypetalous: carpella simple, distinct, immersed in a fleshy seed-bed: seeds solitary or rarely 2: albumen none; embryo large with two fleshy cotyledons and a highly developed plumula, enclosed in its proper membrane; leaves floating. *Tonic and cathartic.*

D. *Podophylleæ.* Polypetalous: anthers bursting by longitudinal slits; carpella simple solitary: leaves without stipules: seed without arils indefinite, attached to a lateral placenta; embryo small, at the base of fleshy albumen. *Cathartic.* (Mandrake-like.)

E. *Sarraceniceæ.* Polypetalous: stamens indefinite, distinct; carpella concrete; germ of several cells with placenta in the axis; calyx regular with imbricate æstivation, and a peltate petaloid permanent stigma. Embryo straight, erect, in the axis of a fleshy or cartilaginous albumen; cotyledons thickish. *Slightly cathartic.*

ORDER LXIII. CRUCIFERÆ. (23)

Calyx 4-leaved: petals 4 in the form of a cross and alternating with the leaves of the calyx; stamens 6, four agreeing with the petals as an alternating series, and two outer as a divisor series: style 1 or none: fruit silique, or silicula: seeds with incurved corcles: stems herbaceous.

A. *Cruciferæ.* Polypetalous: stamens tetradynamous: leaves alternate; root mostly pungent: root and herbage *antiscorbutic and nutritious.* Seed attached in a single row by a funicule, to each of the placentæ, (seed-bases) arranged along within the silique or silicle; albumen none; embryo with the radicle folded upon the cotyledons.

ORDER LXIV. CAPPARIDES.

Calyx polyphyllous, (sometimes monophyllous,) parted: stamens often indefinite: germ stiped: style short or none: pericarp many-seeded: corcle of the seed incurved.

A. *Capparideæ.* Polypetalous: carpella concrete: germ 1-celled, pedicelled: with simple parietal placenta, and continuous enlarged disk: seeds reniform.

B. *Resedaceæ.* Ovules indefinite: germ 1-celled, with a parietal placenta, dehiscent fruit: flowers irregular, partly sterile; embryo reniform. Tonic, used in dyeing.

ORDER LXV. SAPINDI.

Petals 4 or 5: stamens mostly 8 on the receptacle: leaves alternate.

A. *Sapindiaceæ.* Polypetalous: stamens irregularly arranged on a

disk: carpella concrete: germ many-celled with placentæ in the axes: calyx imbricate: flowers irregular; with some interior appendages. *Tonic or poisonous.*

ORDER LXVI. ACERA.

Calyx monophyllous, permanent, 5-cleft: stamens distinct and inserted on the disk with the corol: germ free; stem woody: leaves opposite.

A. *Hippocastanæ.* Polypetalous: stamens definite: carpella concrete: germ many-celled with the placentæ in the axis: calyx imbricate: flowers irregular: leaves palmate. (Horse-chestnut-like.)

B. *Acerineæ.* Polypetalous: stamens definite; calyx imbricate: carpella concrete: germ of several cells with placentæ in the axis: an imbricated axis: flowers irregular: ovules erect definite: petals without appendages; fruit winged. *Sugary, nutritious, tonic.*

ORDER LXVII. MALPIGHIÆ. *(Not in our district.)*

Stamens definite; carpella concrete: germ 3-celled: calyx glandular, imbricate: flowers regular: ovules definite, pendulous: style single: fruit without core; (woody axis.)

ORDER LXVIII. HYPERICA.

Calyx monophyllous, 4 or 5 parted: stamens numerous, sometimes united by their filaments in several parcels: germ single, free: styles 3 to 5: capsule many-seeded: seed without albumen: corcle straight: leaves opposite.

A. *Hyprricineæ.* Polypetalous: stamens indefinite, regular, polyadelphous: carpella concrete: germ many-celled with placentæ in the axis: calyx irregular with imbricate æstivation: seeds imbricate: yellow resinous juice. *Cathartic and febrifuge.* (Johnswort-like.)

B. *Droseraceæ.* Polypetalous: stamens definite: carpella concrete: germ 1-celled, with narrow parietal placentæ: divisions of calyx 5: embryo erect: vernation circinate. *Slightly acrid, tonic.* (Sundew-like.)

ORDER LXIX. GUTTIFERÆ.

Flowers monoclinous or diclinous: stamens numerous, rarely definite, of various lengths: anthers bursting inwards: disk fleshy: trees or shrubs.

A. *Guttiferæ.* Polypetalous: stamens unequal indefinite: anthers adnate: carpella concrete: germ many-celled, with placentæ in the axis: calyx imbricate, many-leaved: leaves opposite, simple, without stipules. *Cathartic acrid.*

ORDER LXX. AURANTIA.

Calyx monophyllous: petals 4 or 5: stamens often united by their filaments in several parcels: berry many-seeded: corcle straight: stem woody.

A. *Ternstromiaceæ.* Stamens adelphous, indefinite, carpella concrete: germ many-celled with the placentæ in the axis: calyx imbricated, many leaved. *Stomachic, tonic, refrigerant.* (Tea-like.)

B. *Aurantiaceæ.* Polypetalous: stamens definite: carpella concrete: germ many-celled, entire: flowers symmetrical: ovules definite, pendu-

lous: style single, fruit pulpy without: woody axis (core): seed without albumen: leaves dotted. *Stomachic, tonic, refrigerant.* (Orange-like.)

ORDER LXXI. MELIÆ.

Calyx monophyllous: petals 4 to 9, often adhering at the base: germ single, free; style 1: fruit many-celled: stem woody.

A. *Meliaceæ.* Polypetalous: stamens definite, combined in a long tube: carpella concrete: germ many-celled, with placentæ in the axis: calyx imbricate: flowers symmetrical: embryo of the seed straight: anthers sub-sessile. *Tonic.*

B. *Cedreleæ.* Polypetalous: stamens definite, combined in a tube: carpella concrete: germ many-celled, with placentæ in the axis: calyx imbricated: flowers symmetrical: seeds winged: embryo strait: anthers sub-sessile. *Febrifuge.* (Mahogany.)

C. *Styraceæ.* Monopetalous: germ inferior, many-celled; ovula definite: leaves alternate. *Stomachic, aromatic, astringent.* (Benzoin-like.)

ORDER LXXII. VITES.

Calyx monophyllus, short: petals 4 to 6, broader at the base: stamens on a disk beneath the germ: berry 1 or many-seeded, no albumen; corcle straight: stem woody, climbing. (Grape-like.)

A. *Vites.* Polypetalous: stamens definite: carpella concrete: germ 1-celled, entire; flowers regular: ovules definite erect; stem with tendrils opposite the leaves. *Refrigerant, tonic, acid.*

ORDER LXXIII. GERANIÆ. (24)

Calyx permanent, 5-parted or 5-leaved: petals 5 with claws: filaments often unequal, sometimes united at the base: germ single, free, often 5-angled: style 1, stigmas often 5; seed without albumen, corcle incurved. (Geranium-like.)

A. *Geraniaceæ.* Polypetalous: stamens monadelphous; carpella concrete: germ entire many-celled: calyx imbricate: flowers symmetrical: ovules pendulous, solitary: carpella adhering to a woody axis. Fruit formed of 5 pieces cohering around a lengthened indurated axis, each piece consisting of 1-cell containing 1-seed, having an arillate covering. Seed solitary, pendulous, without albumen; embryo curved; radicle pointing to the base of the cell; cotyledons foliaceous, convolute and plaited. *Astringent, aromatic.*

B. *Oxalideæ.* Polypetalous: stamens definite, spread or attached at the base: carpella concrete: germ many-celled, placentæ in the axis: calyx imbricate: seeds few, fixed to the axis, enclosed within a fleshy integument, which curls back when ripe and scatters the seed; albumen fleshy-cartilaginous; embryo of the length of the albumen; radicle long, pointing to the hilum and foliaceous cotyledons. *Refrigerant, tonic.* (Sorrel-like.)

C. *Tropæoleæ.* Polypetalous: stamens definite, distinct: carpella concrete: germ 3-celled, with placentæ in the axis; calyx imbricate with one of the divisions spurred: flowers irregular: ovules pendulous: seeds large, without albumen; embryo large; cotyledons straight, thick,

double-consolidated: radicle lying within the projection at the commissure.

D. *Balsameæ.* Polypetalous: stamens definite: carpella concrete: germ 5-celled, with placentæ in the axis: calyx imbricated: flowers irregular, spurred: ovules indefinite; seeds numerous, suspended; albumen none: embryo straight; radicle superior; cotyledons plano-convex. *Scarcely cathartic.*

ORDER LXXIV. MALVACEÆ. (25)

Calyx often double, with the inner one monophyllous: petals 5, regular; stamens numerous united by their filaments: leaves alternate, stipuled. (Mallows-like.)

A. *Malvaceæ.* Polypetalous: stamens monadelphous: carpella concrete: germ many-celled: the placentæ in the axis: calyx with valvate æstivation: anthers 1-celled, bursting longitudinally, no disk: seeds sometimes hairy; albumen none or in exceedingly small quantity; embryo curved with twisted and doubled cotyledons. *Mucilaginous, all wholesome.*

ORDER LXXV. MAGNOLIÆ.

Calyx 3-leaved: petals 6 or 9: stamens many, not united: germs many, on elongated receptacles, cone-form: capsules many, 1 or 2-seeded: seed with fleshy albumen, corcle straight.

A. *Magnoliaceæ.* Polypetalous: stamens with anthers bursting by longitudinal slits: carpellae numerous, distinct, simple: leaves stipuled, not dotted. *Tonic. fragrant.*

B. *Wintereæ.* Polypetalous: stamens with anthers bursting by longitudinal slits: carpella distinct, simple: leaves stipuled with transparent dots. *Stomachic, carminative.*

ORDER LXXVI. ANNONÆ.

Calyx 3-leaved: petals 6: stamens many: germs 2 or more: berries or capsules 2 or more, 1-seeded: seed compressed, corcle minute, albumen solid; stems shrubby.

A. *Annonaceæ.* Polypetalous: anthers bursting by longitudinal slits: carpella numerous, simple, distinct. *Aromatic.*

ORDER LXXVII. MENISPERMA.

Calyx 4 or 6-leaved: corol none, or more than 5-petalled: flowers diœcious: stamens adnate: germs and styles 3 to 6: drupes or berries 1-seeded: leaves alternate. (Moonseed-like.)

A. *Menispermeæ.* Polypetalous: carpella simple, distinct: flowers diclinous, minute: stem shrubby, twining: *Tonic, rarely narcotic.*

ORDER LXXVIII. BERBERIDES.

Calyx polyphyllous or deeply parted: stamens, petals, and divisions of calyx equal in number: germ simple, free; style one or none; fruit 1-celled, with seeds affixed at the bottom of it: corcle strait: stems woody. (Barberry-like.)

A. *Berberideæ.* Polypetalous: stamens opposite to petals with anthers opening with recurved valves: carpella simple, single. *Refrigerant, tonic.*

78. 79. 80. 81. AROUND THE PISTIL. POLYPETALOUS.

B. *Hamamelideæ.* Polypetalous: stamens twice the number of the petals: carpella concrete: germ inferior, 2-celled, with solitary pendulous ovules: leaves alternate: calyx valve-like: petals linear involute. *Tonic.*

ORDER LXXIX. TILIACEÆ.

Calyx polypetalous, many-parted: petals alternating with the divisions of the calyx: stamens innumerable: germ simple, free: seed fleshy corcle sub-incurved, flat: stem woody: leaves alternate, stipuled. (Basswood-like.)

A. *Tiliaceæ.* Polypetalous: stamens distinct: carpella concrete: germ many-celled, with placentæ in the axis: calyx with valvate æstivation: anthers bursting longitudinally: glands between the petals and germ. *Emollient.*

ORDER LXXX. CISTI.

Calyx 5-parted: petals 5: germ single, free: style 1: seeds with fleshy or corneous albumen: leaves stipuled. (Rock-rose like.)

A. *Violaceæ.* Polypetalous: stamens definite (5): carpella concrete: germ one-celled, with narrow parietal placentæ: embryo erect. *Emetic, tonic.*

B. *Cistineæ.* Polypetalous: stamens indefinite: carpella concrete: germ 1-celled, with narrow parietal placentæ: embryo inverted. *Stomachic, tonic.*

ORDER LXXXI. RUTACEÆ.

Calyx monophyllous, 5-lobed: petals 5: stamens 10 or 15: germ simple, free: style 1: seed with flat cotyledons. (Rue-like.)

A. *Rutaceæ.* Polypetalous: stamens definite: carpella concrete: germ entire, many celled: calyx imbricated: flowers monoclinous, regular: fruit capsular. *Tonic.*

B. *Zygophylleæ.* Polypetalous: stamens definite: carpella concrete: germ entire, many-celled: calyx imbricate: flowers regular: ovules pendulous: stamens arising from scales.

ORDER LXXXII. CARYOPHYLLÆ. (26)

Calyx 4 or 5-toothed or leaved; petals the same: stamens generally double: styles 3 to 5: capsules many-valved, dehiscent at top; seeds affixed to the centre of the base: corcle involute: stems jointed: leaves opposite, entire. (Pink-like.)

A. *Lineæ.* Polypetalous: stamens definite: carpellæ concrete: germ entire, many-celled, with placentæ in the axis: calyx regular, imbricate: flowers regular: ovules definite; pendulous: stigmas capitate; seeds in each cell single, compressed, inverted: albumen usually absent, inner lining of the testa tumid; embryo straight, fleshy, with the radicle pointing towards the hilum; cotyledons flat. (Flax-like.) *Emollient.*

B. *Caryophylleæ.* Polypetalous: stamens definite: carpellæ concrete: germ with placentæ in the axis: calyx imbricated: flowers regular: embryo of the seed coiled round mealy albumen: leaves with herbaceous stems. (Pink-like.) *Emollient.*

CLASS THIRTEENTH.

Stamens surrounding the germ.

ORDER LXXXIII. SEMPERVIVÆ.

Calyx free, parted: germ having a number of lobes equalling the number of petals: capsules (or follicles) 1-celled, opening longitudinally on one side, many-seeded: albumen fleshy, corcle straight: in cymes.

A. *Crassulaceæ.* Polypetalous, succulent: stamens definite: germs superior, distinct, surrounded at the base by scales, *Refrigerant, emollient.*

B. *Galacineæ.* Polypetalous: stamens definite: alternately sterile: carpella concrete: germ superior many celled: ovules indefinite. *Scarcely tonic.*

ORDER LXXXIV. SAXIFRAGÆ.

Calyx adhering: petals on the top of the calyx: stamens stand with the petals: styles two, permanent: capsule 2-beaked.

A. *Saxifrageæ.* Polypetalous: stamens definite: ovaria adhering more or less to the calyx and to each other: seeds indefinite, stipuled. *Astringent.*

ORDER LXXXV. CACTI.

Calyx adhering to the germ, 5-cleft: petals on the calyx: style 1, stigma cleft: berry 1-celled, many-seeded. (Prickly pear-like.)

A. *Grossulariæ.* Polypetalous: stamens 5: carpellæ concrete: germ inferior, 1-celled, parietal placentæ: fruit berry: petals distinct. *Refrigerants, tonics, emetics.* (Gooseberry, currant.)

B. *Cacteæ.* Polyptalous, succulent: fertile stamens indifinite: carpella concrete: germ inferior, 1-celled, parietal placentæ, fruit-berried: calyx and corol imbricate. *Refrigerants, demulcent.* (Prickly-pear-like.)

ORDER LXXXVI. PORTULACCEÆ.

Calyx divided at top: corol inserted on the calyx: stamens inserted on the corol: germ free or adhering at the base, capsule many-seeded. (Purslane-like.)

A. *Elatineæ.* Polypetalous: stamens distinct, definite: carpella concrete: germ many-celled, with placentæ in axis: calyx imbricated; flowers regular: seed with straight embryo: stigmas capitate. *Scarcely tonic.*

B. *Portulaceæ.* Polypetalous: stamens not symmetrical: carpella concrete: germ 1-celled: stamens double the petals in number: seeds without pericarp; embryo curved around the albumen. *Emollient, scarcely tonic.* (Purslane-like.)

ORDER LXXXVII. FICOIDEÆ.

Calyx parted, free or adhering to germ: petals on the calyx: stamens indefinite, on the petals: styles many: fruit many-celled with seeds af-

fixed to their inner angles: corcle incurved: leaves succulent. (Fig-like.)

A. *Ficoideæ.* Succulent: polypetalous: stamens definite: carpella concrete: germ inferior, many-celled: seeds indefinite, with embryo lying on the outside of albumen. *Emollient, nutritious.*

ORDER LXXXVIII. ONAGRÆ.

Calyx adhering to germ, tubular, divided at the top: stamens and petals on the top of the calyx: germs many; style 1: fruit many-celled and seeded; seeds affixed to the top of cells.

A. *Onagrariæ.* Polypetalous: stamens definite: carpella concrete: germ inferior, many-celled: ovula indefinite: calyx of 4 divisions, anthers roundish, erect. *Emollient.*

B. *Haloragieæ.* Polypetalous: stamens definite: carpella concrete: germ inferior with definite pendulous ovula: embryo in the midst of fleshy albumen. *Aperient, tonic.*

C. *Circæaceæ.* Polypetalous: stamens definite: concrete carpella: germ inferior, 2-celled: ovules definite erect. *Feebly cathartic.*

D. Callitrichineæ. Sub-achlamydeous, herbaceous: germ 4-celled: seed peltate, solitary. *Emollient, cooling.*

E. *Ceratophylleæ.* Ovula definite, pendulous: flowers solitary: germ 1-celled: calyx many-parted. *Sub-tonic.*

F. *Hydrocharideæ.* Polypetalous: stamens definite: carpella concrete: germ inferior; ovules pendulous, definite: cotyledons unequal. *Sub-tonic.*

G. *Turneraceæ.* Polypetalous: stamens 5 or 10: carpella concrete: germ superior, 1-celled, with 3 parietal placentæ: corol with a twisted æstivation. *Sub-tonic.*

ORDER LXXXIX. MYRTI.

Calyx adhering to germ, permanent, divided: petals generally 5, inserted on the top of the calyx: stamens 20 or more on the calyx under the petals: style 1.

A. *Philadelphæ.* Polypetalous: stamens indefinite: carpella concrete: germ inferior many-celled: anthers round: ovula indefinite. *Tonic, aperient.* (Mock-orange-like.)

B. *Myrtaceæ.* Polypetalous: stamens indefinite: carpella concrete: germ inferior, concrete, many-celled: leaves opposite, pellucid dots. *Aromatic, stomachic.* (Myrtle-like.)

ORDER XC. MELASTOMÆ.

Calyx tubular 4 or 5-cleft: petals equal in divisions with the calyx, and stamens double: germ inclosed by the calyx: corcles incurved: stem herbaceous.

A. *Melastomaceæ.* Polypetalous: stamens definite: carpella concrete; germ inferior, many-celled: anther long, inflexed: seeds indefinite: leaves ribbed, opposite. *Astringent, Refrigerent.*

ORDER XCI. SALICARIÆ.

Calyx free, tubular, permanent: petals inserted on the top of the calyx, sometimes wanting: stamens inserted in the middle of the calyx:

germ single, style 1: capsule covered by the calyx; seeds numerous.

A. *Salicariæ.* Polypetalous: carpella concrete: germ superior, many celled: calyx tubular, with short teeth, covering the capsule. *Astringent, vulnerary.*

B. *Rhizophoreæ.* Stamens double the number of petals, carpella concrete: germ inferior, 2-celled; ovules pendulous. *Astringent.*

ORDER XCII. ROSACEÆ. (27)

Calyx mostly permanent, covering the germ; petals on the top of the calyx: stamens indefinite: seed with a lateral hilum under the apex, and fastened by a funicle to the bottom of the pericarp: corcle straight.

A. *Calycantheæ.* Stamens definite: divisions of the calyx numerous, imbricated: germs inclosed in a fleshy tube: seeds suspended, rarely ascending: embryo straight; radicle short, terete, pointing to the hilum; cotyledons flat; albumen becomes almost obliterated in ripening: anthers turned outwards; leaves opposite, without stipules. *Aromatic, sub-tonic.*

B. *Sanguisorbeæ.* Petals may be called calyx leaves: germs definite, suspended: calyx tubular, indurated: fruit dehiscent: leaves stipuled, alternate. Nut solitary, inclosed in the tube of the calyx: seed solitary: embryo without albumen; radicle superior; cotyledons large, planoconvex. *Astringent.* (Burnet-like.)

C. *Rosaceæ.* Styles lateral: germs numerous, simple: stamens regular: seeds definite, with albumen: embryo straight, with a terete, short radicle, pointing to the hilum; cotyledons flat; albumen becoming obliterated in ripening, or remaining fleshy: leaves alternate, stipuled. *Astringent, refrigerant, febrifuge.*

D. *Pomaceæ.* Stamens indefinite: germs adhering to the calyx: leaves stipuled, alternate: seeds ascending, solitary, (becoming double and triple by culture): albumen none: embryo erect: cotyledons flattish; radicle short, conical. *Refrigerant, aperient, tonic.* (Apple-like.)

E. *Amygdaleæ.* Germ superior, simple, solitary, with a terminal style: stamens regular, indefinite: fruit drupaceous: seed suspended, without albumen: embryo straight; radicle pointing to the hilum; cotyledons thick: leaves stipuled, alternate simple. *Always contain prussic acid.* Astringent, febrifuge, seed and leaves often narcotic. (Peach and plumb-like.)

F. *Chrysobalaneæ.* Germ superior, solitary; style from its base: petals and stamens irregular: fruit drupaceous: leaves stipuled, simple alternate: seed mostly solitary, erect; embryo with fleshy cotyledons and no albumen. *Sub-tonic, and nutritious.*

ORDER XCIII. LEGUMINOSAE. (28)

Calyx and corol mostly in 5 divisions: corols mostly papilionaceous: stamens mostly 10, of which 9 are united by the filaments: fruit a legume: seeds affixed to the suture of one side: cotyledons thick, without albumen. (Pea-like.)

A. *Leguminoseæ.* Germ superior, solitary, simple, with a terminal style: stamens definite: fruit leguminous: seeds attached to the upper suture; embryo either straight, or with the radicle bent on the cotyle-

dons; albumen none; cotyledons expanding below, or above ground: leaves stiped, alternate. *Nutritious, antiscorbutic aperient.* (Indigo and clover-like.

B. *Polygaleæ.* Stamens definite, in one parcel: carpella concrete: germ 2-celled, with placentæ in the axis: flowers irregular: ovules definite, pendulous: fruit dehiscent. *Stimulant, diuretic.* (Seneca snake-root.)

C. *Fumariaceæ.* Stamens diadelphous, definite: carpella concrete: germ one-celled, narrow parietal placentæ: corol irregular. *Diuretic, aperient, diaphoretic.*

ORDER XCIV. TEREBINTACEAE. (29)

Calyx parted: petals and stamens on the base of the calyx: seed without albumen; beak reflexed: stems woody.

A. *Amyrideæ,* Stamens definite; anthers bursting by longitudinal slits: carpella distinct, simple: leaves dotted, without stipules: seeds without albumen; cotyledons fleshy; radicle superior, very short.

B. *Juglandeæ.* Trees. Ovules ascending; flowers in aments: calyx superior; fruit dry-drupaceous, 1-celled: seeds 4-lobed; embryo of the form of the seed: no albumen: cotyledons fleshy, 2-lobed, wrinkled: radicle superior. *Cathartic, astringent.*

C. *Anacardiaceæ.* Germ superior, simple: leaves without stipules: *Poisonous, acrid, astringent.*

D. *Zanthoxyleæ.* Stamens definite: carpella concrete: calyx imbricate: ovules pendulous: fruit a drupe or capsule.

ORDER XCV. RHAMNI.

Corol many-petalled, or the calyx: germ single, free: fruit many-celled; corcle strait, beak inferior: stem woody; leaves stipuled.

A. *Celastrineæ.* Carpella concrete: germ superior, disk fleshy: leaves without stipules. *Cathartic.*

B. *Rhamneæ.* Petals cucullate: germ superior. *Cathartic.*

C. *Staphyllaceæ.* Germ superior many-celled, surrounded by a fleshy disk. *Cathartic.*

D. *Ilicineæ.* Germ superior, 2 or 6-celled: flowers regular: corol 4 to 6-lobed. *Tonic, astringent.*

Section fourth. Diclinous, or Anomalous.

CLASS FOURTEENTH.

Flowers mostly apetalous.

ORDER XCVI. EUPHORBEÆ. (30)

Flowers solitary, spiked, or encircled: perianth many-parted: stamens inserted on the receptacle: filaments often articulated in the middle: germ free, often stiped: capsule 2 or 3-seeded: seeds arilled, affixed at the top of the central columella.

A. *Euphorbiaceæ.* Apetalous: ovules definite, suspended: germ 3-celled: flowers diclinous: embryo in the midst of oily albumen: cotyledons flat; radicle superior. *Tonic, irritating, stomachic.* (Spurge, caper.)

96. 97. 98. DICLINOUS. APETALOUS.

B. *Empetreæ.* Apetalous: ovules definite, ascending; calyx-leaves inferior, distinct, imbricated: stamens distinct; seeds solitary, ascending; embryo terete, in the axis of a fleshy, watery, albumen; radicle inferior. *Sub-tonic.*

ORDER XCVII. CUCURBITACEÆ. (31)

Calyx adhering to the germ, contracted above, and then dilated into a 5-cleft limb: corol bell-form, inserted on the top of the germ: stamens 3 to 5, inserted on the calyx, often united. (Cucumber-like.)

A. *Passifloreæ.* Polypetalous: stamens definite: filamentous or membranaceous processes on the tube of the calyx: carpella concrete: germ superior, 1-celled, with parietal placentæ: leaves glandular: seeds arilled: seeds attached in rows to placentae, with a bristle-sculptered testa surrounded by an arillus: embryo straight in fleshy albumen; radicle turned towards the hilum; cotyledons flat, leafy. *Fragrant, sub-tonic.* (Passion flower.)

B. *Papayaceæ.* Monopetalous; flowers regular, declinous: germ superior, 1-celled, with 5 parietal placentae: seed enveloped in a loose mucous coat with a brittle pitted testa; embryo in the axis of fleshy albumen: cotyledons flat; radicle terete, turned towards the hilum. Unbranched trees. *Solvent, vermifuge.* (Papaw tree.)

C. *Cucurbitaceæ.* Monopetalous: germ inferior, parietal placentæ: fruit succulent: seeds flat ovate, enveloped in a close arillus, which may be juicy or dry: testa corlaceous, with a thickened margin (see pumpion seed) embryo flat; albumen none; cotyledons foliaceous, veined; radicle next the hilum. *Nutritious, refrigerant, carthartic.*

ORDER XCVIII. URTICEÆ. (32)

Flowers small, greenish, solitary in aments, or surrounded by involucres: stamens on the base of the calyx: germ single, free: leaves mostly hispid.

A. *Urticeæ.* Apetalous: ovula definite: calyx inferior: stipules distinct: fruit a simple indehiscent nut, surrounded either by a membranous or fleshy calyx: embryo straight curved, or spiral, with or without albumen; radicle superior, remote from the hilum; cotyledons face to face. *Narcotic, tonic, anodyne.* Bark tough. (Nettle-like.)

B. *Artocarpeæ.* Apetalous, lactescent: flowers in fleshy heads: ovula definite, suspended; leaves alternate, stiped: seed suspended, solitary; embryo inverted; radicle pointing to the hilum: straight inside or outside of the albumen: *Nutritious, acid, poisonous.* The poison Upas and Caoutchouc tree, are here.

C. *Datiscæ.* Apetalous: ovules indefinite: germ 1-celled, with parietal placentæ: fruit dehiscent: flowers diœcious; seeds in membranous reticulated integument; embryo straight: albumen none, radicle turned towards the hilum.

D. *Saurreæ.* Achlamydeous: (no calyx nor corol:) carpellæ 4: ovules ascending: seeds with a membranaceous integument; embryo minute, in a fleshy lentiform seed, outside of a hard albumen, remote from the hilum. *Cathartic.*

E. *Piperaceæ.* Achlamydeous: germ 1-celled: ovules erect: embryo enclosed in a sack at the end of the seed opposite the hilum, outside of the albumen. *Pungent, stimulant, aromatic.* (Pepper.)

ORDER XCIX. AMENTACEÆ. (33)

Staminate flowers in aments, furnished with scales on which the stamens are inserted: pistillate flowers have scales or perianths: fruit bony or membranaceous: corcle straight, flat: stems woody.

A. *Ulmaceæ.* Apetalous: ovula definite, suspended: flowers solitary or loosely clusteted: fruit 2-celled, dehiscent: leaves scabrous, alternate, stipuled: seeds solitary pendulous: albumen none: or scarcely any, embryo with foliaceous cotyledons; radicle superior *Emollient, tonic.* (Elm.)

B. *Cupuliferæ.* Apetalous: ovules definite, pendulous, 2 or more in each cell: flowers in aments; ovaria inferior, single, inclosed in a cup: leaves alternate, stiped, with veins straight from the midrib to the margin: fruit a bony coriaceous 1-celled nut, more or less enclosed by the cup-like involucre or perianth: seed solitary: embryo large, with plano-convex, fleshy cotyledons: radicle minute, superior. Trees. (Oak.)

C. *Betulineæ.* Achlamydeous: germ 2-celled: seeds definite, penculous: flowers in aments: seed pendulous, naked; albumen none; embryo straight; radicle superior. *Astringent febrifuge, stomachic.* (Birch-like.)

D. *Salicineæ.* Achlamydeous; 1 or 2-celled ovarium: seeds indefinite comose: flowers amentaceous: seeds adhering below, comose; albumen none; embryo erect; radicle inferior. *Astringent, tonic, stomachic.* (Willow.)

E. *Platanaceæ.* Achlamydeous: germ 1-celled: ovules pendulous: leaves alternate: flowers amentaceous: seeds solitary, (rarely in pairs,) pendulous, elongated; testa thick; embryo long, terete, lying in the axis of the fleshy albumen; radicle turned to the extremity, (or opposite,) the hilum. *Tonic, aromatic.* (Button-wood.)

F. *Myriceæ.* Achlamydeous: germ 1-celled: ovules erect: embryo naked: flowers amentaceous: seeds solitary, erect; embryo without albumen: cotyledons plano-convex: radicle short, superior. *Aromatic, astringent, stomachic.* (Sweet fern.)

ORDER C. CONIFEREAE. (34)

Staminate flowers in aments, each furnished with a scale or perianth supporting the stamens: pistillate flowers in strobiles, each furnished with a hard scale; fruit bony, or membranaceous: stems woody; leaves evergreen.

A. *Cycadeæ.* Seeds purely naked, mucilaginous: trunk round cylindrical, undivided: leaves pinnate, with gyrate vernation, and parallel veins: ovula solitary; truely naked, with no covering but a contracted leaf, or scale on which they grow: embryo in the fleshy, or horny, albumen; radicle next the apex of the seed, where it hangs by a long funicule. *Emollient.* (Sago plant.)

B. *Coniferæ.* Seeds purely naked: resinous trees, with branched trunks; leaves simple with parallel veins: seeds with hard crustaceous integuments; embryo in fleshy, oily, albumen, with opposite cotyledons; radicle next the apex of the seed. *Balsamic, stomachic, healing.* (Pines.)

EATON'S

BOTANICAL DICTIONARY,

FOURTH EDITION,

Modernized for 1836—*to accompany* STEELE'S *7th edition of*

THE MANUAL OF BOTANY.

Latin words are printed in *Italics*. When a word is the same in Latin and English, excepting a terminal letter or two, it is generally omitted in one of the languages.

ABBRE'VIATED pe'rianth. Shorter than most perianths in proportion to its breadth.

ABBREVIA'TION. Although any botanist may employ such abbreviations as best suits his purpose, by explaining their import; yet the following are in such general use that it is convenient to know them.

Rad. root.	Fr.. fruit.
Fol. leaf.	Ph. leafet of calyx, or leaf.
Stip. stipule.	Per. pericarp.
Flo. flower.	Mas. staminate flower.
Cal. calyx.	Fem. pistillate flower.
Cor. corol.	Neu. neutral flower.
Pet. petal.	Her. perfect flower.
Stam. stamen.	☉. annual.
Fil. filament.	♂. biennial.
Anth. anther.	♃. perennial.
Pist. pistil.	♄. woody.
Stig. stigma.	

Abbrevia'tus. See abbreviated.

ABDOMI'NAL. Belonging to, or situated on, the abdomen; as fins, rings, &c.

ABNOR'MAL, (abnormis.) Some departure from the ordinary structure of the family or genus.

Abor'tiens. See abortive.

ABOR'TIVE flower. Not arriving to perfection; the proof of which is the want of perfect seed.

ABRUPT' leaf. A pinnate leaf which has not an odd, or terminal leafet.

——— *root.* Appearing as if bitten off; as bird-foot violet.

Abrup'te. Abruptly.

Acalac'inus. Without a calyx.

Acau'lis. Stemless.

ACCESSORY. Additional; annexed and of a different kind, often applied to the border of the receptacle of a lichen.

Accre'tus (accrete.) Fastened to another body, and growing with it.

ACERO'SE leaf. Needle-form. Generally inserted on the sides of branches, as in the pines.

Acero'sus. Acerose.

Acetabuls'us (acetabuliformis.) Concave, depressed, round, with the border a little turned inwards; resembling the cavity of the hip-joint.

Achlamydeous. Plants have frequently no floral envelopes; in that case flowers are said to be naked or achlamydeous.

Acicula'ris. Form of a small needle.

Acinac'iform leaf. Sabre-form. One edge sharp and convex, the other thicker and straight, or concave. Cutlass-form.

Acinacifor'mis. Acinaciform.

Ac'ine. One of the little globules constituting a compound berry as of the raspberry.

Ac'inus. Acine.

Acotyled'onous plants. Having no cotyledons, or seed-lobes: and consequently producing no seminal leaves. See Cotyledon and Seed-leaves.

Acu'leus, (aculeatus.) Prickle.

Acu'minate. When the leaf, calyx, &c. terminate suddenly in a point, generally more or less curved towards one edge of the leaf.

Acumina'tus. Awl-pointed, acuminate.

Acutangula'ris. Sharp-cornered.

Acute. Any part of a plant ending without a curved or rounded termination. An obtuse angle or any other angle in mathematics, is acute in botanical language.

Acu'te. Acutely. As *acute-dentatus*, sharply toothed.

Acutiuscu'lus. Acutish. That is, the apex, corner, &c. is hardly rounded so as to be called obtuse, and is rather too nearly round to be denominated acute.

Adelphous. Applied to plants whose stamens are united by their filaments, whether in one, two, or more sets.

Adna'te. Adhering. Any two or more parts of a plant being attached to each other, in cases where analagous parts are separate in other plants.

Adna'tus. Growing together. Adnate.

Acic'ulated, *(aciculatus.)* Marked with very fine irregular streaks, as if produced by the point of a needle.

Adpres'sus. Appressed.

Adscen'dens. Ascending.

Adverse leaf. Presenting its under surface to the sun. One edge presented towards the stem.

Æqual'vis. Valves equal among themselves.

Ærugino'sus. Light bluish green: verdigris color.

Æstiva'tion. The manner in which petals lie in the flower-bud, and leaves in the leaf bud, before they open. 1. *Convolute*, petals or leaves rolled all one way like a roll of paper or cloth. 2. *Imbricate*, petals or leaves lying over each other so as to break joints, like shingles on a roof. 3. *Conduplicate*, each petal or leaf having its edges rolled in, till the two opposite rolls meet on the midrib. 4. *Valvate*, when, just before they open, they stand like the husks of an ear of Indian corn. 5. *Unequal-valved*, when the petals differ in size. See Foliation.

Affi'nis. Having relation, or affinity, to something supposed to be previously known.

Aga'mia. (*a*, without, *gamia*, matrimony,) Necker's name for the class *cryptogamia.*

A'ges of plants. Some plants spring up, flower, ripen seed, and die, in a few hours or a day, which are called *ephemeral.* Others live a few

months or a summer, which are called *annual*. Others spring up in one summer and ripen and die the next, which are called *biennial*. Others live an indefinite period, either with the whole stem and branches, or only by the root, which are called *perennial*.

The ages of trees may be known by counting the concentric rings, or grains.

AG'GREGATE. Many springing from the same point, or from the same receptacle. Sometimes this term is rather loosely applied to heaps or bundles.

Aggregate flowers are those where several stand on the same receptacle without united anthers. Applied to minerals it signifies that several simple minerals are united in a mass by adhesion, or by a cement.

AI'GRETTE, E'GRET. The flying, feathery or hairy crown of seeds: as the down of thistles and dandelions.

—— *stiped* (stipulatus) when it is supported on a foot-stem.

—— *simple* (simplex) when it consists of a bundle of simple hairs, without branches.

—— *plumose* (plumosus) when each hair has other little hairs arranged along its sides, like the beards on a feather.

—— *membranous*, thin transparent leaves.

Martyn recommends this term under the word *pappus*.

AI'GRETTED. Bearing egret.

AIR-CELLS, besides the common intercellular passages, and the receptacles, there are very remarkable cavities among the tissue of plaints containing air only, and not the proper juice of the plant. Air-cells are very variable in size, figure and arrangement. The structure of the air-cells and their coats form one of the most beautiful of microscopical objects.

AKENIUM, is an Indehisent, bony, one-seeded pericarp which does not contract any degree of adhesion with the integument of the seed; as straw-berry.

Ala, wing; *alatus*, winged.

Al'bicans. Whitish, growing white.

ALBUMEN. The farinaceous, fleshy, or horny substance (which constitutes the chief bulk sf monocotyledonous seeds;) between the integuments and the embryo; sometimes called perisperm, as wheat, rye, &c.

Albur'num. The living and incompletely formed external layers are called the alburnum. See Aubier. Sap-wood.

AL'GAE. Linneus comprised the plants of the orders Hepaticae and Lichenes under this order.

ALIENATED. When the first organs, as the stamens, leaves, &c. give place to others different from the natural habit of the plant.

ALLIACEOUS. Emitting the odour of garlick.

ALLUVION. Detritus, which is formed by the process of washing from the place of disintegration.

AL'PINE. Growing most naturally on high mountains.

ALTERNATE. Branches, leaves, flowers, &c. are alternate, when arranged upon opposite sides of the stem, or whatever supports them; beginning at different distances from its base, and continuing in nearly equal series. Sometimes they are in three series.

ALTER'NATING. When one organ is arranged alternately respecting ano-

ther; as the stamens, in the first ten classes, mostly alternate with the petals, or divisions of petals.

Alter'ne, pinnata. Alternately pinnate.

Alve'olate receptacle. (*alveolatus.*) Having cells so as to resemble a honeycomb, with more or less of each seed imbedded in it.

Alutaceous. Tan-color. The color of soal-leather.

Ambitus. Periphery. The outer rim of a frond, receptacle, &c.

A'ment. An assemblage of small flower-bearing scales, which serve as lateral calyces. These are arranged along a kind of rachis, and each encloses either the stamens or pistils of flowers. The pine, willow, oak, chesnut, walnut and nettles are good examples.

Aments'ceus. Growing in aments, amentaceous.

Amphibiology. The department of Zoology, embracing animals which are capable of suspending respiration for a long time without injuring the action of the arterial system; and of living in air also in a healthy state. As frog, snake, tortoise, lizard.

Amplexicau'lis. See clasping. Embracing the stem.

Amplus. Enlarged, abundant.

Ampul'lus. See utriculus. Bladder.

Anal. Situated near the vent, or between it and the tail.

Analluvion. Applied to detritus which has not received its present character from being washed.

Anal'ogy. In natural science, it is frequently necessary to reason from analogy.

Anal'ysis. To analyse a plant *botanically*, is to search out the name by the number, form, position, &c. of its organs, as they exist in a natural state.

Anastomosis. A meeting of mouths. When veins, tubes, &c. join in one, at, or towards, their extremities.

Ancip'ital. *Anceps.* Two edged. Having two opposite edges or angles.

Androg'ynous plants. Bearing staminate and pistillate flowers on the same root without any perfect ones; as the Indian corn.

—— *spike*, has both staminate and pistillate flowers distinct on different parts of it.

—— *flower*, has stamens or pistils only, and is on the same plant with other flowers having different organs from itself.

Anfrac'tuous. Winding by angular turnings.

Angiocarpus. Fungi bearing seeds internally.

An'gular. By means of intervening grooves, the stems, calyces, capsules, &c. often have ridges running lengthwise, which give them this appellation; also having several salient angles on the margin; as the leaf of the Datura Stramonium.

Angula'tus. See angular.

Angustifol'ius. Narrow-leaved.

Annotine. Of one year.

Annual. Which springs up, perfects fruit, and dies in the same year. The herbage is often annual with a perennial root. But the root is always intended, unless the other parts are particularly mentioned.

Annula'tus. Having a ring around the capsules in ferns; or a fungus with ringed stipe.

An'nulus. See ring.

Annuus. See annual.

Anom'alous. (*a* without, *nomos* law.) Whatever forms an exception

to the assumed rules or systems. In the attempts of old botanists at natural arrangement, many plants were necessarily thrown into anomalous groups.

ANTENNÆ. The horns or jointed processes on the heads of insects.

ANTHER. As the limb of a petal is analogous to the lamina of a leaf, and the unguis is analagous to the petiole of a leaf; it follows that the anther is a modification of the lamina, and the filament of the petiole. Similar metamorphoses and interchanges among organs, are easily demonstrated by attentive observation. Especially leaves, branches, and flowers.

ANTHERID'IUM. Used by Nuttall for a mass of pollen.

ANTHERIF'EROUS. *Antherif'era.* Flowers bearing sessile anthers; that is anthers without filaments.

ANTHEROID. Having the appearance of an anther.

Antho'dium. See perianth calyx.

Aper'tio. See blooming.

AP'ERTURE. In conchology it is used for the mouth of a shell, or entrance to the animal's residence. It is of various forms, as angular, rounded, moon-form, linear, &c.

APET'ALOUS. A flower without a corol. See stamineus.

AP'EX. The tip or end. Summit of the spire of a shell.

APHYL'LOUS. Leafless.

Apicula'tum. Covered with fleshy, erect, short points.

Apoph'ysis. A process from the base of the theca of mosses.

Apothe'cium. The receptacle of lichens, being the part wherein the seeds are formed and ripened. The saucer-form cups on those greenish leathery scabs on fences and stones, are examples. They are propagated by sporules, included within little membranous cases, which lie within a denuded portion of their own central substance, called the scutellum, apothecium, or shield. See Border of Lichens.

APPEN'DAGE. As thorns, tendril.

APPENDIC'ULATE. Appendicule. Appendaged. Having something attached to a leaf, corol, &c. as a wing on a petiole, a nectary at the end of a petal as in some species of Polygala, &c.

APPRESSED. Closely pressed; as leaves against the stem, &c.

APPROX'IMATE. Growing near each other, or near to a different part.

AP'TEROUS. Without wings.

AQUAT'IC. Growing most naturally in or near water.

Arachnoi'deus. Covered with interwoven hairs, so as to resemble a spider's web.

Araneo'sus. See arachnoideus.

Ar'bor. See tree.

ARBO'REOUS. Tree-like. Applied to mineral impressions.

ARBORES'CENT. Becoming woody when approaching maturity.

Arbus'cula. See suffrutex—somewhat woody.

Arbusti'vus. Bush-like.

ARCH'ED. Curving above. See vaulted.

AR'CUATE, *Arcua'tus.* Bent like a bow. See bowed.

Arcua'tim. Archwise, curved.

Arena'rius. Growing in sand.

Areola'tus. Raised a little so as to resemble a garden-bed. Cushion-like.

Argen'teus. Silver-coloured.

Argu'tus. Sharp-tapering.
Argyroc'omus. Silky and silvery white.
Ar'id, *A'ridus.* Dry and rough.
A'ril, *Aril'lus.* The outer coat of a seed, which, not contracting with it in ripening, falls off; sometimes the funiculus, or the placenta, expands about the seeds into a fleshy body, named arillus.
Aris'tate, *aris'tu* and *arista'tus.* See awn and awned. Bearded.
Arms. Spines and prickles.
Aromat'icus. Aromatic, sweetscented.
Ar'row-form, Shaped like an arrow-head. It differs from hear.-form in having the hind-lobes acute.
Artic'ulus. See joint.
Artic'ulated. Jointed. Articulated division of animals includes those which have jointed abdomens; as angle-worms, lobsters, spiders and wasps.
Articula'te. Jointedly.
Arundina'ceus. Resembling reeds.
Arven'sis. Growing in cultivated fields.
Ascen'ding. Rising gradually between a horizontal and vertical position.
Ascidium, when the petiole becomes dilated and hollowed out at its upper end, the lamina being articulated with and closing up its orifice; it is also called a pitcher or ascidium; as the leaf of the saracena (side-saddle.)
As'perate, *As'per.* Rough.
Asperifol'ius. Rough-leaved.
Assur'gent, *Assurgens.* Rising in a curve from a declined base.
Asti'ped. Pappus, or a fungus, without a stem or stipe.
Atropurpu'reus. Dark-purple.
Attenuated, *attenua'tus.* Tapering gradually till it becomes slender. Long and slender.
Aubier. Sap-wood, the last year's deposit.
Auc'tus cal'yx. Having an outer row of leafets, as the Dandelion.
Ave'nium. Veinless.
Avertebral. Animals without back bones; as insects, oysters angle-worms.
Aululet. Spurious wings. A tuft of 3 or 5 feathers on the outer fore-joint of a bird's wing.
Aurantia'cus. Orange-colored.
Aure'us. Gold-colored.
Auricles. Apendages to the heart; being small cavities above the ventricles.
Auricula'tus; or *auritus.* See eared. Ear-like processes.
Autumna'lis. Coming to maturity in autumn.
Autumna'tio. The effect of autumn on plants.
Awl'-form. Linear at, and adjoining, the base; and becoming sharp and more or less curved to one side at the point.
Awl'-pointed. Acuminate.
Awn. A short slender process, or stiff beard, from the top or back of glumes or chaff. Processes resembling awns are called by this name, which proceed from anthers or any other parts of vegetables.
Awned. Having awns, (aristatus); abruptly terminated in a hard, straight, subulate point; it is always a continuation of the rib, and sometimes separates from the lamina below the apex.

AWLESS. Without awns; sometimes it means a blunt pointless awn.
AX'E-FORM. Nearly cylindric towards the base, with one side projecting towards the end; which projection is sharp-edged.
AX'IL. The arm-pit. Applied to vegetables, it means the angle formed by the meeting of a leaf or petiole with the stem, or of a branch with the main stem.
AX'ILLARY. Any thing growing from the axils.
AXIS of fruit is often called columella: the space where two carpella unite is named the commissure: the axis may be compared to the vertebral column of animals in many cases.
Axu'reus. See Cæruleus. Blue.

B.

Bac'ca. Pulpy, valveless berry.
Baccif'erous. Berry-bearing.
Baccil'lum. Pedicel of lichens.
BACK. The side of a univalve shell, which is opposite to the side in which the aperture is placed.
Ba'dius. Liver-brown.
BANNER. The upper petal in a papilionaceous flower.
BARB, barba. A straight process armed with teeth pointing backwards; if forked at the apex, both divisions of the fork being hooked, it is *glochis*, or hook-bearded.
Barba'tus. See bearded.
BARK. Properly the inner strong fibrous part of the covering of vegetables. But in a more extended sense it includes also the *cuticle* and *cellular integument.*
BARREN. Producing no ripe seed. See *staminate, neutral,* and *abortive.*
Bas'is. Base. The part of a stem, leaf, flower, &c. nearest to the place through which it derives its nutriment. The extreme end of a univalve shell, opposite to the apex of the spire: and the side or end opposite to the hinge of the bivalve shells. The hilum represents the base of the seed; the apex is determined by the point where the vessels or tissue of the integument concentrate, called the *micropile,* (little process.)
BEAK. One side of the aperture of a univalve shell, extended in the form of a beak; as murex. In a bivalve, it is the tip of the spiral part near the hinge.
BEAK'ED. Terminated by a process, formed like a bird's bill; or terminating gradually in a hard, long, straight point.
BEARD. Having tufts of long weak hairs growing from different parts of the surface. Parallel hairs. It is applied to the filamentous nectaries on the petals of Iris. The lower lips of ringent corols are sometimes called beard. Tendril-like appendages near the mouth of the sturgeon and of some other fish.
BE'ARDLESS. Destitute of beard.
BELL'-FORM. Swelling out at the base and without a tube. Properly applied to monopetalous corols only; but it is frequently extended to liliaceous flowers, and some others.
BELLY. It is the swollen part of the body of a univalve shell. See body.
BEL'LYING. See Ventricose. Inflated.
BERRIED, *(baccatus.)* Having a juicy, succulent texture.

BERRY. A pulpy pericarp enclosing seeds without capsules.
Bib'ulus. Sucking water.
BICAP'SULAR. Two capsules to one flower.
Bicor'nis. Anthers with two horns, or two horn-form processes.
BICUS'PIDATE. Having two lengthened points, each terminated with a small bristle.
Bi'dens. Having two teeth.
BIEN'NIAL. Springing up one summer, flowering and dying the next, as wheat.
Bifa'rius. Facing two ways, presenting two opposite series.
BI'FEROUS. Bearing twice in a year. Common in hot climates.
BI'FID. Two cleft, split into two divisions.
Bi'fidus. Bifid.
Bi'florus. See two-flowered.
Bi'farus. Having two openings or holes.
Bifurca'tus or *Bifur'cus.* Forked.
BIGEM'INATE. Twin-forked. Having a forked stem with two leaves on each part.
BIGLAN'DULOUS. Having two glands.
BIJU'GOUS. A pinnate leaf with two pairs of leaves on each part.
Bila'biate. Corol with two lips; as in most of the class *didynamia.*
BILAM'ELLATE. Composed of two lamellae; it applies to a flattened stigma split lengthwise.
BILO'BATE. Divided into two lobes.
BILOC'ULAR. Two-celled.
BI'NATE. Two standing up together on the top of one stalk. If they spread out horizontally, they are called *conjugate.*
Biner'vis. Two nerved.
BIPAR'TIBLE, or Bipar'tile. Naturally divisible into two parts.
Bipar'titus. Divided into two parts to the base, but still remaining in one piece as the petals of *stellaria.*
BIPIN'NATE. Doubly pinnate.
BIPINNAT IFID. Doubly pinnatifid.
BIROS'TRATE. Having two beaks.
Biseria'lis. In two series; 2-rowed.
BISTRI'ATE. Two slender lines running lengthwise.
BISUL'CATE. Having two furrows or grooves.
BITER'NATE. Doubly ternate.
BI'VALVE. When a capsule is composed of two pieces or valves; or when the glume calyx of grass, &c. consists of two chaffs or husks. When used in Zoology, it refers to the two parts of the shell of such moluscous animals as oysters, clams, &c.
Bivascula'ris. With two horn-form or cup-form cells.
BLIS'TERED. See bullate.
BLOOM'ING. The precise time when all parts of the flower are completely developed.
BLOS'SOM. Colored leaves of a flower, whether calyx, corol, or both.
BLUNT. Round-obtuse.
BOAT-FORM. Hollowed one side with a compressed longitudinal ridge on the opposite side.
BODY. It is the first whorl at the base of a univalve shell; the most swollen part of which is called the belly.
BOLE. The naked trunk of a tree.

Bony, (osseous.) Hard and very close in texture, not cut without difficulty, the parts cut off being brittle: as the stone of a peach.

Border in Lichenes. The edging of their receptacles (apothecium.) It is *proper*, when of the same substance and color of the receptacle. It is *accessory*, when of a different substance or color from the disk of the receptacle.

Border of corols, leaves, funguses, &c. The spreading brim.

——— *tenuis*. Thin border of a fungus.

——— *colorata*. Colored border.

——— *equalis*. When the stem of a fungus is in the centre.

——— *crassa*. Thick border, &c.

Bossed. Bunched up in the centre; as in some *agarics*.

Botan'ical names of plants. Generic names are chiefly given in honor of botanists, and patrons of laborious botanists, at the present day. Hence they are a correct record of the names of the friends of our chief *genera manufacturers*, and adventurous collectors. Specific names are sometimes given upon the same principle. But they are mostly latin adjectives expressive of some striking form or quality of the plant. See Lindley's Introduction, p. 454, and on; wherein he gives the Linnean rules for naming, with his own comments.

Bot'rus. A cluster, like grapes.

Bough. See branch.

Boulder. A large fragment of a rock. This term is applied to all masses of rock, which are severed from a main rock, if the size is above that which is usually denominated a pebble.

Bow'ed. Curved over downwards.

Bowl-form. About half of a hollow sphere.

Brach'iate. Branches nearly horizontal and *decussate*.

Brach'ium. See Measures. Armslength.

Bract. *Brac'ted*. Floral leaf. A leaf near or among flowers, which differs in shape, or color, or both, from the other leaves of the plant. The leaf from the axilla of which a flower-bud arises is called a bract, or floral leaf; and all rudimentary leaves of what size or color soever, which appear on the peduncle between the floral leaf and the calyx, are called bracteoles; but in common language, botanists confound these two kinds, which are essentially distinct. As on the bass-wood, *(tilia.)*

Bracteo'tus. Bracted, having bracts.

Bracteifor'mis. Resembling bracts.

Branch. A division of the main stem, or main root.

Branched. Divided into branches. Applied to roots, trees, &c.

Branch-leaves. Leaves growing on branches.

Branch'let. Subdivision of a branch; a twig.

Branch-pe'duncle. A peduncle proceeding from a branch.

Brev'is. Short. Unusually short.

Brevis'simus. Very short.

Brist'les. Very stiff hairs. They are simple or hooked.

Bristle-form. Nearly proportioned to a bristle in breadth and length.

Bristle-pointed, *(setosus, seliger.)* Terminating gradually in a very fine sharp point.

Bristly. Set with bristles.

Bronchial. Applied to fish it means, pertaining to the gills.

Bruma'lis. See Hyemalis. Wintery.

Brun'neus. Brown, dusky, dun.

Buckler-shaped, (scutatus, scutiformis.) Lens-shaped with an elevated brim.

Bud. The winter residence of leaves and flowers. Generally wanting in hot countries. They are defended by imbricate scales and mostly by a clammy glutinous substance also. They are: 1. *Leaf-bearing.* Which are more slender and sharp. 2. *Flow'er-bearing.* Which are thicker, not so hard nor so sharp. But late investigations prove, that both kinds are interchangable, under the influence of contingencies.

Bulb. *Bulbus.* Bulbous roots. Though we call the turnip, the onion, &c. roots, they are strictly buds; or the winter residence of the future plants. Some bulbs are borne above ground, as on several species of onion, *(allium.)* Leaf-buds have been sometimes confounded with roots by old botanists: a bulb is a leaf-bud; a bulbous root is a contradiction in terms.

Bulbif'erous. Producing bulbs above ground.

Bulbo'sus. Bulbous. Growing from bulbs.

Bulbous root. Fleshy and spherical.

Bul'bulus. Small lateral bulbs shooting from larger ones.

Bullate. Raised in bunches or blisters; as when the parenchymous substance of a leaf rises up between the veins.

Bun'dle. See fascicle.

Butter-fly-form. See papilionaceous.

But'tons, *Tricæ.* That kind of receptacle of lichens which when magnified resembles a coiled horse-hair. They are roundish, sessile, unexpanding, compact, black, and solid; continued along their whole surface. Upper side they are in concentric, or coiled, plaited and twisted folds; covered every where with the same membrane; containing seeds without cells, or cases. Smith.

Byssus. Flax-like, silky, or hair-like fibres at the hinge of some bivalve shells. It is applied to some fungi, &c.

C.

Cadu'cous. Any part of a plant is caducous, which falls off earlier, compared with other parts of the same plant, than is usual for similar parts in most plants. As the calyx of the *poppy* and *bloodroot*, fall off before the corol is hardly expanded.

Cæsius. Sky-blue, pale-blue, grey.

Caes'pitose. Turfy. Several plants growing together, or from the same root, forming a turf.

Cal'amus. Reed-like.

Cal'car. A conic spur. See Spur.

Cal'carate. See spurred.

Calciferous. Bearing calx. An old term for carbonate of lime. Applied to sand rocks, &c. which contain carbonate of lime.

Calic'iform. See Calyciform. Cup-like.

Calic'ulate, *Calicula'tus.* Having a smaller outer calyx. See anctus.

Ca'lix. See calyx. Leaf-cup.

Calyc'iform. Resembling a perianth calyx.

Ca'lycine, (Calycinus.) Appertaining to a calyx.

Ca'lycle. *Cylyculus.* The outer calyx-like part of the crown of some seeds.

CA'LYCLED. See auctus. Having an outer calyx.
Calyc'ulus. See calycle.
Calyp'tra. Calyptre, or veil. The cap or hood of pistillate mosses; resembling in form and position an extinguisher set on a candle. It is the calyx closed; which after being detached at the base its form still keeps it on the capsule a while. See *Perichætium*, which is the true calyx of mosses.
Calyptra'tus. Having a calyptre.
CALYX. *(Kalux, Gr.)* The most exterior integument of the flower consisting of several verticilate leaves, either united by their margins or distinct, usually of a green color, and of a redder and less delicate texture than the corol. If the stamens alternate with the leafets or divisions, Linneus calls it a corol; and if the stamens stand opposite to the leafets or divisions he calls it a calyx, without regarding the color or texture. This rule is to apply where but one of the organs is present.
—— *double.* When one calyx is outside of another; as in the *hollyhock*, (althea.)
—— *common.* When one calyx includes many florets, as the thistle.
—— *proper.* When a floret is included in a general calyx of its own.
There are seven kinds of calyx: 1. Perianth. 2. Involucre. 3. Spathe. 4. Glume. 5. Ament. 6. Calyptre. 7. Volva. See each.
CAMB, *Cambium.* Beneath the bark and above the wood is interposed in the spring a mucous viscid layer, and appears to be exuded both by the bark and wood.
CAMPAN'ULATE, *Campanula'tus.* See bell-form.
Campes'tris. Growing in uncultivated fields.
CANAL. The channel or gutter along the bank of a univalve shell.
Canalicula'tus. See channelled.
CAN'CELLATE, *Cancella'tus.* See latticed. When the parenchyma is wholly absent and the veins alone remain anastomising and forming a kind of net work.
CANESCENT. Becoming white or hoary.
CAP'ILLARY, *Capilla'ris, Capilla'ceus.* Hair-form; longer than bristle-form in proportion to its thickness.
Capilli'tium, is a kind of purse or net, in which the sporules of some fungi are retained.
Capil'lus. Hair. See pilus.
CAP'ITATE, *Capita'tus.* Head-form; growing in heads. When a bud produces flower-buds, with little elongation of its own axis, either a head (capitulum) or an umbel is produced.
Capre'olus. See tendril.
CAPRIFICA'TION. The fertilizing of pistillate flowers by artificially sprinkling pollen upon them. This is important in raising figs.
CAP'SULE, *(capsula,)* a little chest. That kind of pericarp, which opens by valves and becomes dry when ripe: not including siliques nor legumes When it is one-valved, it is called a FOLLICLE, *folliculus*, which see. It consists of *valves*, *partitions*, *columella*, and *cells*, which see. One kind of capsule never opens and is called *samara*.
CARI NATE. *Cari'na.* See keeled.
CAR'NEOUS, *Car'neus.* Flesh-coloured, Nuttall uses it for fleshy.
CARNO'SE, *Carnosus.* Fleshy.

CAR'POGENA'TION. (*Karpos*, fruit; *gennao*, to bring forth.) A substitute for the word *fructification*.

Carpellum, is formed by a folded leaf, the upper surface of which is turned inwards, the lower outwards, and the margin of which developes one, or a greater number, of buds, which are the ovula (becoming seeds.)

CARTILAGE. Flexible, fibrous, compact substance; often called gristle. Applied to animals mostly.

CARTILAG'INOUS. Hard and somewhat flexible. It applies to a leaf, when it is bound around with a strong margin, different from the disk of the leaf.

CARUN'CLE. Fleshy protuberance on the heads of some birds, as turkies.

CARYOPHYL'LEOUS. Pink-like, as to the corol; having five petals with long claws, all regular and set in a tubular calyx.

CATAPHRACT'ED. Callous skin, or cartilaginous scabs.

Castra'ta. Filaments being without anthers.

Cate'nula. A thread in some mosses, serving to unite or chain together the seeds.

CAT'KIN, *Catulus*. See ament.

CAU'DAL. Pertaining to the tail or posterior extremity.

CAU'DATE, *Cau'da*. See tail.

Caudex. The main body of a tree or root.

CAULES'CENT, *caulescens*. Having a *caulis*, or stem, exclusive of the peduncle or scape.

CAU'LINE, *cau'linus*. Growing on the main stem.

Caulic'ulus. The space that intervens between the neck and the base of the cotyledons is called the cauliculus.

Cau'lis. The main herbage-bearing stem of plants, except of the grassy kind; as trees, weeds, &c. We have no English name for this stem, unless we adopt the French, tige.

CAULOCAR'POUS or those whose stem endures many years as trees and shrubs.

CELL. The hollow part, or cavity of a pericarp or anther. It is more generally applied to the cavities of pericarps, where seeds are lodged. According to the numbers of these the pericarps are called *one-celled*, *two-celled*, &c.

CEL'LULAR INTEG'UMENT. The parenchymatous substance between the cuticle and bark. This substance is generally green.

CEL'LULES, *cis'tulæ*. Little cells, or small bladders and cavities of various forms. Sometimes applied to that kind of receptacle of Lichens, which is globose, terminal, and formed of the substance of the frond: and at length bursts irregularly and exposes uncoated seeds mixed with fibre.

Cellulo'sus. Cellular. Having cavities within, which are small and irregular; and in which sometimes granules are nested.

Centra'lis. In the centre; sometimes used for near the centre.

Cephalo'dia. See knobs.

CERE. Membrane covering the base of a bird's bill.

Cerea'lis. (*Ce'res*, goddess of corn.) Any grain of which bread is made.

Cer'nuus. When the apex or top only droops or bends down. See *nutans*, and the difference in the two terms.

CERVINUS. Fawn-colored. The color of the fine light hair of a deer. Very pale reddish yellow.

CHAFF. Thin membranous covering of the seeds of grass, grain, &c.

or left on the receptacles of some compound flowers, after the seeds are removed.

CHAF'FY. Bearing chaff, covered with small, weak, erect, membranous scales resembling the paleæ or chaff of grasses.

CHAMBERS. The cells, or separate spaces, in shells. They are connected by a siphunculus.

CHAN'NELLED. Hollowed out longitudinally with a rounded groove of considerable depth.

CHELATE CLAWS. At the end of fore-legs of some insects. They resemble forceps, like lobsters' claws.

CHO'RION. A clear limpid liquor contained in a seed in the time of flowering. This liquor, after the pollen is received, becomes a perfect embryo of a new plant, and takes the consistence usual in perfect seeds. But without the reception of the pollen, neither any thing like the embryo or perfect seed, is ever formed. Malpighi.

Chrysoe'omous. Golden locks; or a yellow bundle of thread.

CIC'ATRICE, *Cica'triz.* The mark or natural scar from whence the leaf has fallen.

CIL'IATE, *cilia'tus.* Edged with parallel hairs or bristles, resembling eye-lashes.

CINE'REOUS. Of the color of wood-ashes.

Cin'gens. Surrounding, girding around.

CIR'CINAL. Rolled in spirally beginning with the tip, which continually occupies the centre; as ferns.

Circina'tus. Circinal. Also compassed about.

Circumci'sus. Cut round. Opening transeversely, not lengthwise: as the capsule of purslane.

Cirrif'erous. Bearing tendrils.

CIRRO'SE, *cirro'sus.* Terminating in a tendril.

Cir'rus. (Curled bushy hair.) A tendril or climber.

Cistu'læ. See Cellules. Little hollows.

CLAM'MY. See viscid.

CLAS'PER. See tendril.

CLAS'PING. The base of the leaf being more or less heart-form and sessile, so that the two hind lobes partly surround the stem.

CLASS, *clas'sis.* The highest division of bodies in a system. Each class is defined to be the agreement of several genera in the parts of fructification, according to the principles of nature, distinguished by art. Grand divisions sometimes precede classes.

CLA'VATE, *cla'vatus.* Club-form. Growing larger toward the end.

Clau'sus. Closed, shut up.

Cla'vus. See spurred rye. Ergot.

CLAW. The lower narrow part of a petal by which it is fixed on the calyx or receptacle. It can exist only in polypetalous corols.

CLEFT. Split down, not exceeding half way to the base; with nearly strait edges on both sides of the fissure. The parts into which it is split are numbered in descriptions; as once split making two divisions, is called 2-cleft; two splits, 3-cleft, &c.

CLEFTS, *lirel'læ.* That kind of receptacle of *lichens*, which is open, elongated, sessile, black, very narrow or linear, with a somewhat spongy disk; the border is parallel on each side and proper. Sometimes it has an accessory border from the crust besides. The *clefts* are either simple and solitary; or aggregate, confluent and branched.

CLIMB'ING. Ascending by means of tendrils, as grapes; by leaf-stalks, as virgin's bower; by cauline radicles, or rootlets, as the creeping American ivy, (rhus radicans.) It differs from *twining*, which see.

CLOACA. A general vent for eggs, urine, and foeces, as of birds, &c.

CLOUDS. They may be divided into the regular and irregular.

CLUB. The clavate part of a fungus, which supports the fruit or bears the seed.

CLUB'-FORM. See clavate.

CLUS'TERED. See racemed.

CLY'PEATE, *Clypea'tus*. Form of a buckler. See peltate.

COAD'UNATE. With united bases.

COAETA'NEOUS, *coaeta'nus*. Existing at the same time. Applied to willows and to some other plants; it implies that the flowers and leaves appear at the same time.

CO'ALIT, *coali'tus*. Thickened, increased, or pressed together, as the anthers of potatoe flowers.

COARC'TATE. Compact. Pressed or squeezed close together.

COAT'ED. Consisting of concentric coats, layers or skins, as the bulbous roots of onions.

COB'WEBBED. See arachnoideus. Covered with loose, white, entangled, thin hairs, resembling the web of a spider.

Coccin'eus. Scarlet-colored.

Coc'cum. A grain or seed. Tricoccous, 3-seeded; pentacoccous, 5-seeded, &c.

COCH'LEATE, *cochlea'tus*. Coiled spirally, like a snail-shell.

Coeruleo-purpu'reus. Bluish-purple, violet color.

Coeru'leus Blue.

Cohe'rens. Cohering, attached; the fastening together of homogenous parts.

COIL'ED. Twisted like a rope; or rather resembling the form of one thread of a rope, after the other threads are removed.

Colli'nus. Growing on hills.

COLOR. There are eight principal colors, under which all the others may be arranged; viz. *white*, *grey*, *black*, *brown*, *yellow*, *green*, *blue*, and *red*. (In optics, red, orange, yellow, green, blue, indigo, violet.)

1. WHITE.

Snow-white, (niveus.) As the purest white.

Pure-white, (candidus.) Very pure but not so clear as the last.

Ivory-white, (cream-color, eburneus.) White verging to yellow with a little lustre.

Milk-white, (lacteus.) Dull white, verging to blue.

Chalk-white, (cretaceous, calcareous, gypseous.) Very dull white; grey.

Silvery, (argenteus.) A little changing to bluish grey.

Whitish, (albidus.) Any kind of white a little soiled.

Turning white, (albescens.)

Whitened, (dealbatus.)

2. GREY.

Ash-grey, (cinereus.) Color of clean, cold ashes.

Pearl-grey, (griseus.) Pure grey, a little verging to blue.

Slate-grey, (schistaceus.) Grey bordering on blue.

Lead-colored, (plumbeus.) The same, with a little metalic lustre.

Smoky, (fumeus, fumosus.) Grey changing to brown.

Mouse-colored, (murinus.) Grey with a touch of red.

Hoary, (canus or incanus.) A greyish whiteness, caused by hairs overlying a green surface.
Rather hoary, (canescens.) A variety of the last

3. BLACK.

Pure-black, (ater, mela or melano.) Is black without the mixture of any other color.
Attratus and *nigritus*. When a portion only is black.
Black, (niger.) A little tinged with grey. A variety is nigrescens.
Coal-black, (anthracinus.) A little verging upon blue.
Raven-black, (coracinus, pullus.) Black with a strong lustre.
Pitch-black, (piceus.) Black changing to brown.

4. BROWN.

Chesnut-brown, (badius.) A little tinged with red.
Brown, (fuscous.) Brown tinged with grey.
Deep-brown, (brunneus.) A pure dull brown. Umber-brown, (umbrinus) is nearly the same.
Bright-brown, (spadiceus.) Clear brown.
Rusty, (ferrugineus.) Light brown with a little mixture of red.
Cinnamon, (cinnamomeus.) Bright brown mixed with yellow and red.
Red-brown, (porphyreus.) Brown mixed with red.
Rufous, (rufus, rufescens.) Reddish brown.
Liver-colored, (hepaticus.) Hematitic or dark-blood color.
Fuliginous, (or fuliginosus.) Dirty brown.
Lurid, (luridus.) Black-and-blue, like a bruised eye; grey shaded with pale blue. Deathly.

5. YELLOW.

Lemon-colored, (citreus, or citrinus.) The purest yellow.
Golden-yellow, (aureus, auratus.) Pure yellow and bright.
Yellow, (luteus.) As gamboge.
Pale-yellow, (flavus, luteolus, lutescens, flavidus, flavescens.)
Sulphur-colored, (sulpureus.) A pale, lively yellow.
Straw-colored, (stramineus.) Dull yellow mixed with white.
Leather-yellow, (alutaceus.) Whitish yellow.
Ochre-color, (ochraceus.) Yellow changing to brown.
Ochroleucus. Yellowish white.
Waxy-yellow, (cerinus.) Yellow with waxy brown.
Egg-yolk, (vitellinus.) Dull yellow, just turning to red.
Apricot-color, (armeniacus.) Yellow and redish.
Orange-color, (aurantiacus, aurantius.)
Saffron-colored, (croceus.) Orange with a touch of brown.
Helvolus. Greyish yellow with a little brown.
Isabella-yellow, (gilvus.) Dull yellow with a mixture of grey and red.
Testaceous, (testaceus.) Brownish yellow, like unglazed earthen ware.
Tawny, (fulvus.) Dull yellow with a mixture of grey and brown.
Cervinus. Tawny, a little darkened.
Livid, (lividus.) Bluish yellow.

6. GREEN.

Grass-green, (smaragdinus, prasinus.) Clear lively green without any mixture.
Green, (viridis.) Green, not bright, (viridescens,) shades of green.
Verdigris-green, (aeruginosus.) Deep green with a mixture of blue.

Sea-green, (glaucus, thalassicus, glaucescens.) Dull green passing into greyish blue.
Deep-green, (atrovirens.) Green a little verging upon black.
Yellowish-green, (flavovirens.) Much stained with yellow.
Olive-green, (olivaceus.) A mixture of green and brown.

7. BLUE.

Prussian-blue, (cyaneus.) A clear bright blue.
Indigo, (indigoticus.) The deepest blue.
Blue, (coeruleus.) Lightish blue.
Sky-blue, (azureus.) A light, pure, lively blue.
Lavender-color, (caesius.) Pale blue, tinged grey.
Violet, (violaceus, ianthinus.) Pure blue stained with red.
Lilac, (lilacinus.) Pale dull violet.

8. RED.

Carmine, (kermesinus, puniceus.) The purest red without any admixture.
Red, (ruber.) In Greek composition (erythro) the common term for any pure red.
Rosy, (roseus.) Pale pure red.
Flesh-colored, (carneus, incarnatus.) Pale with a slight mixture of red.
Purple, (purpureus.) Dull red with a slight dash of blue.
Sanguine, (sanguineus.) Dull red passing into brownish blue.
Phaeniceous, (phœniceus, puniceus.) Pure, lively red with a mixture of carmine and scarlet.
Scarlet, (coccineus.) Pure carmine slightly tinged with yellow.
Flame-colored, (flammeus, igneus.) Very lively scarlet; fiery red.
Bright-red, (rutilans, rutilus.) Reddish with a metalic lustre.
Cinnabar, (cinnabarinus.) Scarlet with a slight mixture of orange.
Vermillion, (miniatus, vermiculatus.) Scarlet with a decided mixture of yellow.
Brick-color, (lateritious.) Dull red mixed with grey.
Brown-red, (rubiginosus, haematiticus.) Dull red with a slight mixture of brown.
Xerampelinus. Dull red with a strong mixture of brown.
Coppery, (cupreus.) Brownish red with a metalic lustre.
Githagineus. Greenish red.

COL'ORED. Of any hue except green; but in the language of botanists green parts are not colored.
Colora'tus. Colored. Any color but green.
COLUMEL'LA. That which connects the seeds to the inside of a pericarp. It is generally applied to a central pillar in a capsule. Applied to shells, it means the pillar formed by the spire, commencing with the left lip.
COLUMN. Applied to a thick strong style.
COLUMNAR. In the form of a column, as the position of the united stamens in the hollyhock. The stamens of flax-flowers and of wood-sorrel flowers take a columnar form, though they do not adhere.
Columnif'era. Stamens and pistils disposed in the form of a column.
Com'a. (*Kom'e*, a head of hair.) A tuft of bracts on the top of a spike of flowers.
COMB-TOOTHED, (*pectinatus.*) Same as pinnatifid, but the segments very numerous, close and narrow, like the teeth of a comb.

Comma'sure. The place where one thing or part is joined to another. It is applied to sides or edges of two seeds, growing on umbelliferous plants, where they are joined together; as those of the carrot and fennel.

Com'mon, *communis*. Any part is common, which serves to inculude or sustain several parts, similar among themselves.

—— *perianth*. Including several florets; as in the thistle.

—— *involucre*. Surrounding the base of the peduncles, in an umbel, which are subdivided above.

This term is often used for *frequent* also.

Como'se. Having a coma, or lock of hair.

Compac't. See coarctus. Solid.

Comple'te, *completus*. Having both calyx and corol. When the corol is wanting, the flower is *incomplete*. When the calyx is wanting, the flower is *naked*, if it has a corol.

Com'plicate, *complicatus*. Folded together.

Com'pound, *compositus*. One whole, formed of many similar parts.

—— *flowers*. Those comprised in the class *syngenesia*, with several florets on one receptacle, each with united anthers.

—— *leaf*. When several leafets grow on one petiole.

—— *raceme*. When several racemes grow along the sides of a peduncle.

—— *spike*. When several spikelets grow along the side of a fruit-stalk or general spike.

—— *umbel*. Having the peduncles subdivided into peduncles of lesser umbels, &c.

—— *petiole*. A divided leaf-stalk.

—— *peduncle*. A divided flower-stalk.

Com'pound terms. When any part of a plant is to be described, which does not agree with the definition of any term in use, two or more terms must be compounded, so as to convey to the mind correct descriptions. For example, the chesnut leaf has notches on the margin pointing towards the apex, which answers to the description of serrate leaves; excepting that the notches are hollowed out. But these hollowed notches are not deep enough for sinuses; therefore the two terms are compound, making *sinuate-serrate*. Compound terms are always united by a hyphen.

Compres'sed, *compres'sus*. Flattened as if squeezed or pressed.

Con'cave, *con'cavus*. Hollowed a little on one side. It is sometimes applied to deeper hollows: though rarely.

Conceptac'ulum. See follicle, single-valved capsule.

Conchology. The science of shells. It is divided into the Univalve, Bivalve, and Multivalve: which see; also see the terms, apex, base, front, back, sides, body, whorl, spire, aperture, lip, beak, operculum, chambers, siphunculus, slope, lunule, hinge, ligament, cicatrix, &c.

Con'color. The same color in all parts.

Condu'plicate. That kind of foliation where the leaf, while in the bud, has its two sides shut together, like two leaves in a book.

Cone, *co'nus*. See strobile. Scaly fruit of pine, cedar, &c.

Confer't, *confer'tus*. Thick-set; leaves, flowers, &c. standing so closely together, as to seem to crowd each other.

Con'fluent. Running together. It is applied more particularly to the

receptacles of some lichens, which run together in disorder, and become indistinct.

CONGE'NERES. Plants of very similar habits, &c.

Conges'tus. Heaped but not compressed densely.

CONGLOM'ERATE. See glomerate. When used in geology, it is applied to aggregates of rounded pebbles.

CON'IC. With a broad base and approaching a point towards the apex; as the root of a carrot.

Conif'era. Bearing cones, as pines.

CON'JUGATE. See binate. In pairs, as if yoked together.

CONNA'TE. Leaves being opposite with their bases growing together, so as to form the appearance of a single leaf. Anthers are sometimes connate also.

CONNI'VENT, *Conni'vens.* See converging. Bending inward.

Consim'ilis. Resembling in the particular case referred to.

CONTIN'UOUS. Uninterrupted. Continuing through the whole extent.

CONTOR'TED, *contor'tus.* Twisted. It is also applied to corols, which have the edge of one petal lying obliquely over the next.

Contrac'tus. Close, narrow, contracted unusually.

CONVER'GING. Approaching, or bending towards each other.

CON'VEX. Swelling out in a roundish form, generally one side.

CON'VOLUTE, *convolu'tus.* Rolled into a cylindric-form, like a roll of paper, lengthwise with the mid-rib. Applied to the situation of leaves in the bud.

Coniocysta, (tubercle-like) closed apothecia, containing a mass of sporules.

COR'CLE, *cor'culum.* (*Cor*, the heart.) The embryo of the new plant in a seed, situated between the cotyledons in dicotyledonous seeds. It consists of the *plumo* and *radicle* or *rostel*, which show themselves soon after vegetation commences. See plume and rostel.

CORDATE. Heart-form: so called from its supposed resemblance to the heart. It is hollowed behind with the side-lobes rounded at the base. See arrow-form.

COR'DATE-OBLONG, COR'DATE-LANCEOLATE, &c. partake of the formation of both compounds.

Cormus. If it distend under ground, without creeping or rooting, but always retaining a round or oval figure, it is called a cormus.

CORIA'CEOUS. Leathery or parchment-like.

CORKY (suberosus.) Having the texture of the substance called cork.

COR'NERED. Having angles or corners. Three-cornered, four-cornered, &c. is often expressed trigonus, &c.

Cor'nu. A horn or spur. Long hard process.

CORNU'TE, *Cornu'tus.* Horn-form; or having horns or spurs.

COROL, *corol'la.* (A diminutive of *corona*, a crown.) The inner delicate covering of the flower, which constitutes its principal ornament in most cases. In a few cases, as the Euchroma *coccinea*, the corol is dull and unsightly, while the calyx is gaily coloured. See petal and nectary.

Corollif'erous. Bearing the corol.

Corol'linus. Resembling, or appertaining to a corol.

Corona'rius, coro'na, crown. Forming a crown.

Corona'tus. Crowned; as the thistle seed is crowned with down.

Coro'nula. A little crown.

COR'RUGATED, *corruga'tus.* Wrinkled. Applied also to ridges, in some measure resembling wrinkles.

COR'TEX. The bark, which see. It consists of a number of layers equal to the number of years the tree has been growing; though they are often too thin to be numbered. The inmost layer is called the *liber.*

COR'TICAL, COR'TICATE. Having its origin from the bark, or having bark. *(Corticatus,)* harder externally than internally.

Cortina. Spiderweb-like vessel, being very thin and filamentous. Also a name given to a portion of the veil, which adheres to the margin of a pileus in fragments. A cauldron.

Coryda'lis (*Kor'os*, a helmet.) Plants with helmet-form corols.

CO'RYMB, *corym'bus.* Flowers umbel-like in their general external appearance, but their peduncles or supporting stems stand at different distances down the main stem; as yarrow.

Corymbif'era. Bearing corymbs.

COS'TATE, *costa'tum* Ribbed.

Cot'tony. See tomentose.

COTYLE'DONS are generally thick and fleshy lobes of seeds; as the two lobes of a pea. But they are often only a small part of a seed: as the small single cotyledon of a kernel of Indian corn, attached to one side of a large mass of Albumen near the hilum (or eye.) The cotyledons belong to the embryo of the new plant; but the albumen is a dense mass, such as becomes flour or meal by grinding wheat, corn, &c. Peas, beans, &c. cannot be ground into flour, as they contain no albumen.

COTYL'IFORM *(cotyliformis;)* resembling rotate; but with an erect limb.

COW'LED. When the edges meet below and expand above, and generally separate; as the spathe of the *arum*, Indian turnip.

Cras'sus. Thick. Inordinately thick.

CREE'PING. Running along the ground, or along old logs, &c. nearly in a horizontal direction, and sending off rootlets.

CRE'NATE. Scolloped on the rim or edge. Notches on the margin of a leaf, which do not point or incline towards either the apex or base. When large crenatures have smaller ones on them, they are doubly-crenate.

CRE'NULATE. Very finely crenated.

CRES'CENT-FORM. Resembling the form of the moon from its change to half-fulled.

CREST'ED. Having an appendage somewhat resembling a cock's comb in form, being an elevated, irregular, or notched ridge, resembling the crest of a helmet.

Cre'ta. Growing on chalky land.

CRIBROSE. Sieve-like. Numerous perforations.

Crinitus. Long-haired. Bearing hairs in locks.

Cris'pus. See curled.

CRIS'TATE, *crista'tus.* See crested.

CROSS'ARMED. See brachiate.

CROWN. The calycle, hair, or feathers, on the top of some seeds; as the dandelion.

CROWNING (coronans;) situated on the top, like a crown.

CRU'CIATE. Cruciform, or resembling the cruciform.

Crucia'tim. Crosswise. Opposite pairs of branches or leaves successively crossing each other. See decussate.

Cru'ciform. (*Crux*, a cross.) Corols with four petals, whose lamina form a cross. Plants with such corols belong to the class *tetradynamia.*

Crusta'ceous. Leafy appearance, but consisting of small crusty substances lying one upon another. Applies to a brittle crustaceous thallus.

CRYPTOGAMIA. (*Kruptos*, concealed; *gamos*, marriage.) The process of fertilizing flowers by the application of pollen to stigmas, invisible or not performed.

Cryptog'amous. (*Kruptos*, concealed, *gamos*, marriage.) Belonging to the class cryp'toga'mia. Applied to plants whose stamens are never manifest under the highest magnifying power.

Cu'bit. 17 inches. A measure from the elbow to the end of the middle finger.

Cucul'late. See cowled. Hoodform, as the spathe of the Indian turnip.

Cucurbita'ceous. Resembling gourds or melons.

Culinary. Suitable for kitchen cookery.

Culm, *cul'mus.* The stem of grain and grass, when dry it is usually called straw. It is applied to all grassy plants; as Indian corn, sedge, sugar-cane, &c.

Culmif'erous. Having culms, as wheat, Indian corn.

Culmin'eous. Like the roof of a house. Top.

Cultrate. Coulter-form. The beak of a bird resembling a plough-coulter.

Cum'ulus. Heaped. Accumulated.

Cunei'form, *cunei'forme.* See wedge-form; wedge. The form of the vertical segment of a wedge, cut at right angles with its planes.

Cup'form. Hollow within, resembling a little cup.

Cupu'la. Cup. The pileus of a fungus, which is open at the top; as those of the genus Peziza.

Cupula'ris. Cup-form; slightly concave with a nearly entire margin. as the cup of an acorn.

Curl'ed. When the periphery of a leaf is too large for the disk, it becomes waved or curled.

Curv'ed. Bent inwards. See incurved.

Cushioned, *pulvinatus.* Convex and somewhat flattened.

Cusp. The bristle of a cuspidate leaf, calyx, &c. Nuttall.

Cus'pidate. Eye-tooth. Having a sharpened point and that tipped with a bristle, a prickle, or a lengthed apex, not curved. See mucronate and observe the distinction; also acuminate.

Cut. Divided by acute incisions; often used in composition, as cut-pinnatifid.

Cu'ticle. The thin outside coat of the bark, which has no life and is very durable, often transparent. It greatly resembles the scarf skin of animals. Very distinct on elder, currant and birch; on one species of birch it resembles paper.

Cya'neus. Blue. Hence, cyanic acid.

Cyathifor'mis. Wine-glass form. Cylindric widening gradually upwards, margin not revolute.

Cylin'dric. A cylindrical shaft, of nearly equal diameter throughout its whole extent; as stems of grasses.

Cymbifor'mis. See boat form.

CYME, *cy'ma.* Flowers umbel-like in their general external appearance. It agrees with an umbel in having its common stalks spring from one centre; but differs in having those stalks variously and alternately subdivided; as the elder, *(sambucus.)* Smith.

Cymo'sus, CYMO'SE. Being in cymes.

Cyphel'læ. See pits. Pale tubercle-like spots on the under surface of the thallus, as in sticta.

D.

Dædal'eus. The end broad, waving and torn. Neatly formed.

DAGGER-POINTED. See cuspidate.

Deal'batus. Covered with an opake, white powder.

Debi'lis. Weak, feeble, lax.

DEBRIS. Ruined rocks. The broken fragments of coarsely disintegrated rocks.

DECAGYN'IA. *(Deka*, ten, *gune*, female.) Tenth order of a class.

DECAN'DROUS. Plants having ten stamens in each flower.

Dechaphyl'lus. Ten-leaved: as of a calyx or pinnate leaf.

Decem'fidus. Cut into ten parts, or 10-cleft.

DECIDENS. Terminating; as in a point, in a summit, &c.

DECID'UOUS. Falling off in the usual season for similar parts to fall; as leaves falling at the decline of the year; corols falling off at the time the stamens fall, &c. See caducous and permanent.

DECLI'NATE, decli'ned, *declina'tus.* Curved downwards arch-wise.

DECOMPOSI'TION. Separating the chemical elements of bodies. It differs from disintegration, which subdivides without decomposition.

DECOMPOUN'D, *decompositus.* Doubly-compound. When a compound, or divided, petiole has a compound leaf on each part, the whole is a decompound leaf. The same with umbels, &c. See supra-decompositus.

Decortica'bilis. Easily peeled.

DECREAS'INGLY PINNATE, (decrescente pinnatus.) When the leafets diminish insensibly in size from the base of the leaf to its apex.

DECUM'BENT, *decum'bens.* When the base is erectish, and the remainder is procumbent and rising. It applies to stems, stamens, &c.

DECUR'RENT. When the two edges of a leaf extend downwards below the points of insertion and become projecting wings to the stem. The gills of *agarics* are decurrent, when they run down the stipe in a single ridge.

DECUR'SIVELY PINNATE. When the leafets of a pinnate leaf run along the petiole with their extended bases.

DECUS'SATE, *decussa'tus.* When leaves or branches are opposite in pairs, and each pair stands at right angles with the next pair above or below on the same stem.

DEFLEC'TED, *deflex'us*, Bending down archwise, bent back.

Deflora'tus. Having discharged the pollen.

DEFOLIA'TION, *defolia'tio.* The shedding of leaves in the proper season.

Defolia'tio no'tha. The shedding of leaves before the proper time on account of injuries received.

DEHIS'CENT, *dehiscen'tia.* The natural opening of capsules in the proper season.

Deliq'uium. See debilis. Weak, watery, dissolving.

Del'toid, *deltoi'deus*, A leaf with four corners; that is, one at the stem, one at the apex, and one on each side; but the side ones are nearer to the base than to the apex. When the side angles are about as near to the apex as to the base, it is called a rhomboid leaf. Also the transverse section of a prismatic triangular leaf, stem, &c.

Demer'sus. See submersed. Under water.

Dendroi'des. Tree-form. Plants, recent and petrified, which exhibit forms resembling branches and leaves. See tree-form.

Dense, *den'sus.* Close, compact. A panicle with abundance of flowers very close is dense. See thyrse.

Den'tate, *denta'tus.* Toothed.

—— *leaf.* (This term is of such almost unlimited extent, it is best defined negatively.) Projections from the margin of a leaf, which are of its own substance; and not serratures, nor crenatures.

—— *root.* That kind of granulated root, which resembles teeth strung together.

Dentic'ulate. Having very small teeth.

Den'toid. Remotely resembling teeth, or having processes somewhat of that form.

Den'ture. A tooth. An indenting also.

Denu'date. Plants whose flowers appear before the leaves, consequently have a naked appearance. To make naked.

Deor'sum. Downwards.

Depaupera'tus. Few-flowered. Deprived of flowers &c.

Depen'dens. Hanging down.

Depress'ed. When the upper surface of a succulent leaf is a little concave. It applies to seeds also with flat tops. Also to plants which grow in a low-spread form.

Descen'dens. The entering of a root into the ground. The direction is *vertical*, as the beet; *horizontal*, as the mint; *oblique*, as the branching roots of most trees.

Det'ritus. That part of the surface of the earth, which is neither rock nor recently decomposed animal or vegetable matter. Ground or worn down rocks in the state of earth.

Dextror'sum. Twining from left to right; that is with the apparent motion of the sun; as the hop-vine.

DIADEL'PHIA. (*Di*, twice; *adelphos*, brother,) the Linnean class of plants which have stamens united by filaments in two parcels. In some cases, as lupines, the stamens are in one parcel; but in such cases they must be papilionaceous.

Diadel'phous. Belonging to, or varying into, the class diadelphia.

Diagno'sis. A short description containing only what is essential. Linneus made it his rule, never to let a specific description exceed twelve Latin words. Willdenow says more must be added if necessary. It should extend no farther than to express the difference between that and the other species.

DIAN'DRIA. (*Dis*, twice; *aner*, male.) The Linnean class with two stamens only to each flower.

Diaph'anous. Admitting the transmission of light obscurely. Translucent.

Dichot'omous. Forked. Stem, &c. parted in pairs, each branch part-

ed in pairs again, and so on. When it is parted but once it is more properly called forked, *furcatus*.

DICLIN'IA. (*Dis*, twice; *kline*, bed,) stamens in one flower and pistils in another, whether on the same or on different plants. This is the name of a class in Pursh's Flora, comprising most of the plants of the classes Monœcia and Diœcia.

This class Pursh divides into three orders. 1. *Segregata*, which includes plants, whose flowers are monœcious or diœcious; but are not in aments or strobiles. 2. *Amentaceæ*, which includes plants, whose flowers are in aments and not in strobiles. 3. *Coniferæ*, which includes plants, whose flowers are in strobiles, as pines.

DICLI'NIOUS. (*Dis*, two; *kline*, bed.) Plants, whose stamens and pistils are in different flowers, whether on the same plant, or on different plants.

DICOC'COUS. Two-grained. Consisting of cohering grains, or cells with one seed in each.

DICOTYLED'ONOUS. Plants with two cotyledons. See Cotyledon.

DID'YMOUS, *di'dyma*. Twinned, as some anthers.

DIDYNAM'IA. (*Dis*, twice; *dunamis*, power.) The class which has 4 stamens to the flower, two of which are longest, as catnip.

DIDYNA'MOUS. Belonging to, or varying into, the class Didynamia.

Diffor'mis. Applied to a monopetalous corol, whose tube widens above gradually, and is divided into irregular or unequal parts. It is also applied to any distorted parts of a plant.

DIFFRACTED. Twice bent. Antennae are diffracted, when bent outwardly, then forward, at short turns.

DIFFU'SED, *diffu'sus*. Spreading. Expanded in an open loose manner.

DIG'ITATE. Fingered. When the base of several leafets rest on the end of one petiole; as the strawberry and fivefinger.

DIGITATATO-PINNATE, (*didgitato-pinnatus;*) when the secondary petioles on the sides of which the leafets are attached, part from the summit of a common petiole.

DIGYN'IA. (*Dis*, twice, *gune*, female.) The order of any of the classes as far as the Polyandria, which has two styles (if no styles 2 sessile stigmas) to each flower.

Dilata'tus. Expanded, widened.

Dilu'te. Prefixed to a colour implies, that it is reduced; as dilute-purpureus, pale purple.

Dimidia'tus. See halved.

DIŒ'CIA. (*Dis*, twice; *oikos*, house.) The class whose stamens are in a flower on a plant, which never bears pistillate flowers, as the hemp and willow.

DIŒ'CIOUS, *dioi'ca*. Belonging to, or varying into, the class *diœcia*.

DIPET'ALOUS. Having two petals.

DIPHYL'LOUS. Having two leaves.

DIPTERYG'IA. See wings. Winged seeds.

DISAPPEAR'ING (diliquescens;) branched but so divided that the principal axis is lost trace of in the ramifications; as the head of an oak tree.

DIS'COID. Resembling a disk. A tuft of leaves spread out so as to resemble a disk. Having a disk without rays. Such compound flowers as are wholly made up of tubular florets; that is, though they may have marginal florets differing from those in the disk in the essential organs, yet the corols will be all tubular, and not ligulate.

DISINTEGRA'TION. The process of destroying the integral character of a body. Applied to geology it signifies, the process of crumbling down a rock, or reducing it to grains, pebbles or soil, by the two disintegrating agents, the variations of temperature and moisture.

DISK, *dis'cus*. The whole surface of a leaf, or of the top of a compound flower, as opposed to its edge or periphery. This term is also applied to the aggregate florets of an umbel, and to the broad or thickened top of a receptacle. It is applied to the outer surface of each valve of a shell.

Disper'mus. Containing but two seeds.

Dissec'tus. Gashed in deeply.

DISSEP'IMENT. *Dissepimentum*. See partition.

Dissil'iens. A pericarp is dissilient, when it bursts open with a spring; as the touch-me-not, (impatiens.)

Dis'tans. Standing off remotely.

DIS'TICHALLY. See distichus. This is a very odd adverb introduced by Nuttall. Somewhat 2-ranked.

Distichus. (*Dis*, twice; *stichos*, row.) Two-ranked. When branches, leaves, or flowers are arranged along opposite sides of the stem or spike, so as to point two opposite ways; as the leaves of the hemlock tree, (pinus canadensis.)

DISTINC'T, *distinc'tus*. Separate, opposed to connate or confluent.

DIVAR'ICATE, *divarica'tus*. Branches spreading out from the stem so far, as to form more than a right angle with it above.

DIVER'GING, *Diver'gens*. Branches spreading out from the stem so far, as to form almost a right angle with it.

Diur'nus. Enduring but a day.

DIVI'DED. *divi'sus*. Severed into parts.

DODECAN'DRIA. (*Dodeka*, twelve; *aner*, male.) The Linnean class having more than ten and less than twenty, stamens to the flowers. Most botanists have rejected this class, and distributed its genera among other classes and orders.

DODECAN'DROUS. Belonging to, or varying into, the class *dodecandria*.

Dodecaphyl'lus. Having twelve leafets.

Do'drans. Longspan. Distance between the ends of the thumb and little finger, being both extended. About 9 inches.

Dolabrifor'me. See axe-form.

DOR'SAL, *dorsa'lis*. Fixed to the back. Back fins. Awns are dorsal, when proceeding from the outside of a glume and not from the tip.

DORSIF'EROUS. Bearing the fruit on the back; as ferns.

DOT'TED. Besprinkled with dots. See punctate and perforated.

DOUB'LE. Two in the place where most plants have but one; as the double calyx of the holly-hock, (althea.)

DOUB'LE-FLOWERED. See full-flowered.

DOUB'LY. See duplicate. In english it has its common appropriate meaning; as doubly-crenate, when the crenatures are crenated, &c.

DOWN or DOWN'Y. (*pubescence*) when hairs form a short, soft stratum, which partially covers the cuticle.

DRUPE, *drup'a*. That kind of pericarp which consists of a thick, fleshy, succulent, or cartilaginous coat, enclosing a nut or stone. It is *berry-like* (baccata) as in the cherry, or *dry* (exsucca) as in the walnut (*juglans.*)

DRUPA'CEOUS. Bearing drupes, or fruit resembling them.

DRUSES. Any cavities in minerals, which are lined with crystals.

DUCTS are membranous tubes, with conical or rounded extremities; their sides being marked with transverse lines, or rings, or bars, or dots, arranged spirally, and being incapable of unrolling.

Dumo'sus. Bushy, or resembling bushes.

Duodecem'fidus. Cleft in 12 divisions. 12-cleft.

Duplica'to. Doubly. This term is often prefixed to others, in all which cases it simply means doubly. As duplico-ternatum, doubly-ternate or biternate.

Duplo, (triplo, or double, triple) signify that the organs to the name of which they are prefixed are twice or thrice as numerous or large as those of some other.

DWARF *(nanus, pumilus, pygmoeus:)* small, short, dense as compared with other species of the same genus or family.

DYNAMOUS. Applied to plants whose flowers contain two, or four, stamens, longer than two others in the same flower.

E.

EAR'ED. This term applies: 1st, to the round extended, or appendaged lobes of a heart-form leaf; 2d, to the side lobes near the base of some leaves: and 3d, to twisted parts, in some ferns and some liverworts, which are supposed to resemble the conchus, or passage into the ear. Applied to shells, it means the flat processes near the hinge in bivalves; as the pecten (scollop.)

Ebracteu'tus. Without bracts. (Floral leaves.)

Ebur'neus. Ivory white; as the whole plant *monotropa*, called beech-drops, or birdsnest.

Ecalcaratus. Without a spur or horn.

ECHI'NATE, *echina'tus.* Hedge-hodge-like. Beset with erect prickles.

ECOS'TATE. Nerveless or ribless.

EFFLORES'CENCE. The powdery substance on some Lichens, composed of minute deciduous globules.

Efflorescen'tia. Flowering season of different sorts of plants. More simple flowers come out in June than in any other month, in North America. Very few compound flowers appear before August.

EFFOLIA'TION. Unnatural falling of leaves by means of improper culture, worms, &c.

EFFUSE. Open, or having an opening, so that seeds, liquids, &c. may be poured out.

Eglandulo'sus. Glandless. Used in cases where glands are common.

EGRET. See aigrette, pappus.

ELLIPTIC. Longer than wide, rounded at or near both ends, and nearly equal in breadth towards both base and apex.

ELL, *(ulna, brachium,* ulnaris, brachialis;) twenty-four inches, as used in natural history.

ELON'GATED. Lengthened out, as if extended beyond what is usual in similar parts.

ELYTRA. The outer, or upper, shelly wings of some orders of insects.

EMAR'GINATE. Notched in the end at the termination of the mid-rib. See retuse.

EM'BRYON. See hilum. Eye of a bean, &c.

ENNEAN'DRIA. *(Ennea,* nine; *aner,* male.) having nine stamens to the flower.

ENNEAN'DROUS. Belonging to, or varying into, the class *enneandria.*

Eno'dis, ENO'DE. Knotless. Having no joints; as the bulrush.

EN'SATE, *ensa'tus*. Having sword-form leaves.

EN'SIFORM. Sword-form. Two-edged, tapering from base to apex mostly, and a little arching towards one edge; as flag and cat-tail, (Iris and Typha.)

Entangled (*intricatus*,) intermixed in an irregular manner.

ENTI'RE. Continued without interruption. A margin of a leaf, calyx, corol, &c. is entire, when it is neither serrate, toothed, notched, nor in any manner indented. Used to indicate not pinnatifid, and also nearly destitute of marginal divisions.

ENTOMOLOGY. The science of insects; as lobsters, insects, spiders. It embraces the whole articulated division, excepting Annelida.

Ephe'merus. Of very short duration. Insect or plant of an hour.

Epicar'pus. On the germ. See superior.

Epider'mis. See cuticle.

Epigeus. (Gr. *epi*, upon, *ge*, earth) growing close upon the earth.

Epigynous. Growing upon the summit of the ovarium, or germ.

Epiphrag'ma. A thin membrane stretched over the mouth of the moss, *polytrichum.*

Epiphyllus. (foliaris); inserted upon the leaf.

E'QUAL. Similar parts equal among themselves. The calyx, corol, &c. are equal, when the leafets, petals, or subdivisions, are similar in form, size and direction. Prefixed to pinnate, implies the absence of a terminal leafet.

EQ'UITANT. Opposite leaves embracing each other, so that they alternately enclose each other's edges; as the leaves near the roots of the Iris and yellow garden lilies (hemerocallis;) also the position of the leaves in some unopened buds.

EREC'T, *erec'tus*. Upright. Not so perfectly strait and unbending as strictus. When applied to any thing laterally attached to the stem, as leaves, &c. it implies that it makes a very acute angle with it.

Erectius'culus. Erectish, sub-erect.

ER'GOT. See spurred rye.

Erina'ceous. Hedge-hog-like. See *echinatus.*

ERO'SE, *ero'sus*. Gnawed. Unequally sinuated, as if the sinuses had been eaten by insects.

ESCUTCHEON. A plate between the bases of wings of insects.

ESSEN'TIAL character. See diagnosis.

ESSEN'TIALS. The stamens and pistils.

EVERGREENS. Such plants as retain their leaves throughout the year; as white pine, laurel, &c.

EV'ERGREEN. Verdant throughout the year.

EXAN'NULATE. Ferns whose capsules are without rings. This comprises one section of ferns. Those which have an apparent vestige of, but not in reality, a ring, form another section. Those with a ring, another. See annulatus.

Exara'tus. See sulcate.

Exaspera'tus. See roughened. Harshly hirsute.

Excava'tus. Hollowed. With deep pits.

Excipulus. Is that part of the thallus which forms a rim and base to the shields.

Exogenous. Plants which receive their increase of volume upon the

outside of the wood, and inside of the bark. They are the dicotyledonous division.

EXOT'IC, *exoti'cus*. Plants not growing spontaneously in a wild state in that particular country, or section of a country.

EXPANSILE. Capable of being spread.

Explana'tus. Unfolded. Spread out flat.

EXSERT, *exser'tus*. Standing out. Stamens are exsert when protruded out of the corols. Peduncles of spikes in culmiferous plants are exsert, when protruded out of the sheaths; as carex folliculata and pubescens. Teeth may be exsert.

EXSTIP'ULATE. Without stipules.

EXTRAFOLIA'CEOUS. Outside of the leaf. A stipule is extrafoliaceous when it comes out a little lower than the leaf.

Extrors'um. Outwardly, turned outwards, or from its axis.

F.

Faci'es. The general external appearance of a plant.

FACTI'TIOUS. Produced by art; not natural.

FACTIT'IOUS character. A character, where the number of parts or some other circumstance, not of essential importance, are taken into it. It admits of fewer or more characteristic marks, than are absolutely necessary.

FAL'CATE. See acinaciform. Flat and arched edgewise, in various degrees of curvature; like a scythe or sickle.

FAN'FORM. Spread out and plaited in a radiated manner, like ladies' fans. Same as *flabeliformis*.

Farc'tus. Stuffed, full. It is opposed to fistulous, hollow.

Fari'na. *Farinarius*, pollen, meal, flour, mealy, powdery.

Fasci'atus. Having parallel bands, or coloured stripes. Also used to express the unnatural growing together of contiguous parts, as 2 or 3 apples growing together.

FAS'CICLE, *fascic'ulus*. A bundle. Flowers umbel-like in the general external appearance, with footstalks irregular in their origin and subdivision.

A bundle of tuberous roots is called a fascicle: as the asparagus root. Also a bundle of leaves; as of the white pine.

FASCIC'ULATE. An unnatural bundle of branchlets.

FASTIG'IATE, *fastigia'tus*. Level-topped. Applied to aggregate flowers, which are elevated to an equal height or nearly so; forming a level, convex or concave top, differing but little from a plane. It is also applied to leaves; as the hog-weed (ambrosia artemisifolia.)

Fovo'sus. See alveolate. Resembling honey-comb.

Faux. Jaws. The throat or opening into a corol. That precise spot, where the tubular part of a ringent corol begins to separate or expand into lips or mouth, is the faux.

FEAT'HER. See Aigrette. The plumose crown of seeds.

FE'MALE, *femin'eus*. See pistillate.

FEN'CED. Walled around, as the stamens are by the scales in brookweed (samolus.)

FERNS. Filices. Cryptogamous plants, which have green leaves or fronds, with dorsal fruit; as brakes and polypods.

FERRIF'EROUS. Containing iron ore.

FERRU'GINOUS, *ferrugin'eus*. The colour of iron-rust Applied to masses of minute quartz crystals.

FER'TILE. Applied to pistillate flowers.

FERTILIZA'TION. The application of the pollen, which is formed in the cells of anthers, to the stigma; which is essential to the production of perfect seed.

FET'TERED. Having entangling feathers on the legs.

FI'BRE, *fi'bra*. Any thread-form part. The small flexible thread-form roots of grasses and many other plants, are called fibres.

FI'BROUS. Composed of fibres. Made up, in part, of loose fibres, as the rind of a cocoanut.

FIBROUS CELLULAR, *(fibro-cellular tissue)* is that in which the sides are composed either of both membrane and fibre together, or of fibre only.

FID'DLE-FORM. See panduriformis Oblong and contracted latterly.

Figura'tum. This term is applied to the mouth of the capsule of a moss, when it is set round with membranaceous teeth.

FIL'AMENT, *filamentum*. That part of the stamen which is between and connects together the anther and the receptacle, calyx, or pistil. When the filament is wanting, the anther is sessile. In monopetalous corols, the filaments are generally inserted into, or are attached to, their bases.

Filices, the first order in the class cryptogamia. See ferns.

FIL'IFORM. Thread-like. Of nearly equal thickness throughout, round and cylindric. It is applied to spikes which are very long in proportion to their diameters.

Fimbria'tus. Fringed. Differs from ciliate in being less regular and of coarser parts.

Fimeta'rius. Growing naturally on manure heaps.

FIN'GERED. See digitate. Sometimes applied to single leaves, deeply cleft into narrow segments.

FISSILE. Easily split in the direction of the liminae.

FISSURE. *Fissus*. A cleft or slitted apperture. Applied to rocks &c.

FIS'TULOUS. Hollow like a pipe, flute or reed; sometimes tapering towards one, or both, ends; as the leaves and stalks of onions.

FLAB'ELIFORM. See fan-form. Resembling ladies' fans.

FLACC'ID, *flac'cidus*. Too lax or limber to support its own weight.

Flagel'lum. *Flagellifor'mis*. Resembling a whip-lash. A runner.

Flam'meus. Flame-coloured.

Fla'vus. Yellow, yellowish.

FLESH'Y. Thick and filled with pulp within, as liverwort.

FLEX'IBLE, *flex'ilis*. Easily bent.

FLEX'UOSE. Bending and frequently changing direction: as from joint to joint, branch to branch, leaf to leaf, &c.

Flex'us. Bent. This relates to but one bending. See geniculate.

FLO'ATING. See natant. Lying or moving on the surface of water, as the Lemna, (water flaxseed.)

FLOCCO'SE, *flocci*. Woolly, or resembling the flocks sheared from cloth. Wolly filaments found mixed with sporules,

FLO'RAL. Relating to a flower-*bud*, containing an unopened flower-leaf, a bract.

FLO'RET. Little flower. Whether the flower is large or small, it is a floret, if it is one of a number all of which constitute an aggregate or compound. As the little flowers which make up the head of a thistle, a head of wheat, the umbel of a carrot, &c.

Floribun'dus. Abounding in flowers, beyond other species.

FLORIF'EROUS. Bearing flowers. A leaf is floriferous when a flower grows out of its disk or margin.

FLO'RIST. One whose employment is that of creating monsters; that is, double and various colored corols; as carnations, double roses, &c.

FLOS'CULAR, *flosculo'sus*. See tubulous

Flos'culus. Tubular floret. Nuttall applies it to the florets of grasses; but ought not to be followed.

FLOW'ER. The stamens and pistils with their covering. These two organs, or rather their anthers and stigmas, are essential to all plants. But the calyx, corol, and even nectaries when present, are parts of the flower.

FLOWER-BUDS consist of rudimentary leaves, surrounding a point, which does not elongate after it is once developed, and assumes, when fully developed, the form of reproductive apparatus.

Fluria'tilis. Growing naturally in rivers and brooks.

Fœ'tidus. Smelling disagreeably.

FOLD. Annexed to numerals denoting so often combined; as 5-fold leaves, growing in fives, &c.

FOLIA'CEOUS, *folia'tus*, leafy; leaves intermixed with flowers, on a spike or in other aggregates; abounding in leaves.

FOLIA'RIS. A tendril on a leaf. A bud containing leaves only.

FOLIA'TION, *folia'tio* The manner in which unopened leaves are situated within the bud. The modes of foliation are: 1. Involute. 2. Revolute. 3. Obvolute. 4. Convolute. 5. Imbricate. 6. Equitant. 7. Conduplicate. 8. Plaited. 9. Reclinate. 10. Circinal. See each in its proper place.

Folif'erous. Particularly adapted to bearing leaves; leaf-bearing.

FOL'IOLE, *foli'olum*. See leaflet. One of a compound leaf.

Fol'ium, *Folio'sus*, leafy, leaf.

FOL'LICLE, *Folicu'lus*. A pericarp with one valve, which opens lengthwise on one side only; as milk-weed (asclepias.)

Fontina'lis. Growing naturally about springs, or fountains.

FOOT (pes, pedalis); twelve inches, or the length of a tall man's foot. Also applied to the stems of leaves and flowers.

Foraminulo'sus. Pierced with many small holes, or foramens. Divided into two pretty long parts, as petals, branches, &c.

FORMATION, A term used by geologists to express more or less than a definite stratum; as detritus is called alluvial formation, iron formation may apply to the ferriferous rocks and their iron contents.

Fornica'tus. Arched, vaulted, bent over archwise.

Fos'ea. A nectariferous cavity for the reception of honey. Honey-comb-like.

Fovil'la. The fine substance contained in the particles of pollen. When the ripe pollen comes in contact with the moist stigma, it explodes and discharges the fovilla.

Frag'ilis. Breaking easily and not bending.

FREE. A germ is free, when not attached to the surrounding calyx or corol. Used for disconnected, disunited, not adnate.

Fri'gidus. Growing naturally in cold countries; arctic.

FROND, *frons*. An herbaceous, a leathery, a crustaceous, or gelatinous leaf, or somewhat of a leaf-like stem or bed from which or within which the fruit is produced. It is applied exclusively to the class cryptogamia, and *palms*.

FRONDO'SE, *Frondo'sus.* Leafy, frond-like or leaf-like.

FRONTLETT. The part back of the base of a bird's bill. Generally bristly.

Frosted, (pruinosus); nearly the same as roridus, but applied to surfaces in which the dewy appearances is more opaque, as if the drops were congealed.

Frutescen'tia. Applied to palms and such others as have a simple stem, and leaves only at top.

FRUCTIF'EROUS. Bearing, or becoming, fruit.

FRUCTIFICA'TION, *Fructifica'tio.* "The temporary part of vegetables, which is destined for the reproductions of the species, terminating the old individual and beginning the new."—Linneus.

FRUIT, *fruc'tus.* The seed with its enclosing pericarp. If the seed grows naked, the seed alone is the fruit; as of the sage and corn.

FRUIT'DOTS. Assemblages of capsules on the backs of ferns. Also small assemblages of powdery bodies on the fronds of lichens, called *soredia.*

FRUSTRA'NEA, (Frustra, in vein,) *polygamia.* The third order of the class Syngenesia, which bear compound flowers with perfect florets in the disk and neutral ones in the ray; as the sun-flower.

Frutex, fruticosus, frutescent. Woody, or becoming woody; as lilac, steeple-bush. Mostly applied to bushy, or bush-like shrubs, which arise from the root in numbers; not in a single bole, like trees of oak or poplar.

Fug'ax. Fugacious. Soon disappearing. Flying off. See ring.

Fulcra'tus. Having appendages, as tendrils.

Ful'crum. These are seven: 1. Stipule. 2. Bract. 3. Thorn. 4. Prickle. 5. Sting. 6. Gland. 7. Tendril. See each in its proper place.

FULIGINEUS. Sooty, dark dull color.

FULL-FLOWERED. When the petals of the corol are so multiplied as to exclude the stamens; which is effected by the stamens becoming petals; as the peony, rose, &c. This rarely takes place in monopetalous corols.

FUL'VOUS. *Ful'vus,* Yellowish rust-colour.

FUN'GI, funguses. However unsightly a common toad-stool, the mould on old scraps of leather in damp places, or the blight in grain, may appear to the careless observer. they are all beautifully organized, and highly interesting.

FUNGO'SE. *Fungus.* Fleshy and spongy. This term is sometimes put for pileus.

FU'NICULE, *Funic'ulus umbillica'lis.* The thread by which a seed is fastened at the hilum.

FUN'NEL-FORM. A corol with a tubular base, and a border opening gradually into the form of a reversed cone.

Fur'catus. See dichotomous. Forked.

FURFURA'CEUS. Bran-like.

FUR'ROWED. See sulcate. Marked lengthwise with a channel.

Fus'cus. Sooty-yellow, dark-yellow.

FU'SIFORM, *fusifor'mis.* Spindle-form. A root thick at the top and tapering downward to the point is fusiform; as the beet and carrot.

G.

Gal'ea. See labiate. A helmet. Upper lip.

GA'LEATE, *Galea'tus.* Resembling a helmet, or broad upper lip.

GALLS, *Gal'læ.* Excresences produced by the stings of insects. The balls found on oaks which are used in dyeing, the common large green oak-balls, the singular green lumps found on the wild honey-suckle, &c. are examples. The irritation upon the delicate sap-vessels, produced by the sting and egg of the insect, causes a greater flow of sap in that direction. This pressure of sap distends and distorts the capillary tubes and membranes, until those excresences are formed around the egg. In due time the egg becomes a larva, a maggot, which after feeding a while upon the gall, changes into the pupa, or chrysalis, and at last escapes a perfect insect, or fly. Each fly produces a gall of a peculiar form.—Willdenow.

GANGUE. The part of a rock which lines a vein and embraces a mineral, and is unlike the rest of the rock.

GAPE. The opening between two lips of a labiate, or irregular, corol. Applied to mouths of birds.

GELATINOUS, *(gelatinosus.)* Having the texture and appearance of jelly.

Gem'inus. See double. It is also used for paired, in pairs or twins.

Gemma'tion, gem'ma. Budding, The gemmation of plants comprehends the developement of a new plant from the bud, as well as the foliation.

GEMMIP'AROUS. Producing buds in the axils of leaves.

GEN'ERAL. See partial. General is applied to a whole, which is made up of a number of entire individuals, The *umbel* of a garden carrot is a *general umbel;* and each *umbellet* terminating a secondary branch is a *partial umbel.*

GENER'IC CHAR'ACTER. The definition of a genus. It is confined entirely to the flower and fruit. It is *essential, factitious,* or *natural;* which see.

GENER'IC NAME. The name of a genus. Milne enumeratet 21 rules respecting the naming of *genera;* which with his examples occupy 40 pages. See Lindley, p. 433.

GENIC'ULATE. Kneed. Forming a very obtuse angle, like a moderate bending of the knee.

Gen'tes. Nations. Linneus divided plants into nine great natural tribes or casts. 1. Palms. 2. Grasses. 3. Lilies. 4. Herbs. 5. Trees. 6. Ferns. 7. Mosses. 8. Algæ. 9. Fungi.

GE'NUS, (plural *gen'era.*) A number of plants which agree with one another in the structure of the flower and fruit. Willdenow.

GEODE. A cavity in a mineral whose sides within are more or less spherical. It may be empty or it may contain minerals different from the mineral containing the geode.

GERM, *germen.* That part of the pistil, which, after the pollen is received, soon contains the rudiment of one young plant or more. Its whole substance becomes the pericarp and seed as it enlarges itself.

When the calyx comes out below the germ, the germ is *superior,* and the calyx *inferior;* when the calyx comes out of the upper part of the germ, the germ is *inferior,* and the calyx *superior.*

GERMINA'TION. The swelling of a seed, and the unfolding of its embryo. It should be carefully watched.

GIB'BOUS. Bunched out. When one or both sides are swelled out.

GILL-COVERS. The bony or cartilaginous covering placed over, or outside of, the gill-membranes.

GILL-MEMBRANES. The membranes immediately covering the gills.

Gills. See lamella. Lungs of fish. Lamina of toadstools.

Gil'vus. Iron-grey, and brick-color.

Glabel'lus. Bald. Without hairs, or other covering.

Gla'brous, *gla'ber.* Sleek. Having no pubescence. Glaber is often translated smooth; but a leaf with soft cottony pubescence is smooth, though it is not glabrous; as araphalium.

Gladia'tus. A sword-form legume is sometimes called gladiate. See ensiform. It is applied to leaves also.

Gland, *glan'dula.* A round, or roundish appendage which serves for transpiration and secretion. They are situated on leaves, stems, calyxes, and particularly at the base of stamens in some cruciform flowers; as mustard. Glandular hairs, or hairs with glandular heads, are very abundant on the common hazlenut calyx, of North America, (corylus americana.) Also on the Prunus.

Glan'dular, Glan'dulous. *glandulosus.* Having glands.

Glau'cous. Clothed with a sea-green mealiness like some cabbage leaves. It is sometimes put for a greenish-grey colour. This color, *ferruginous* and *hoary*, are so constant, that they are used in specific descriptions. Most other colours are excluded on account of their being too variable to be relied on.

Globo'se, *Globosus.* Spherical, round on all sides like a ball. Some authors apply it to circular leaves.

Glob'ules. Minute spheres. That kind of receptacle of lichens, which is globose, solid and crustaceous, formed of the substance of the frond, and terminating its points or branches; from whence they fall off entire, leaving a pit or cavity. They are supposed to be covered all over with a coloured seed-bearing membrane. Smith.

Glo'chis. See barb. Hooked beards.

Glom'erate, *glomera'tus.* When many branchlets are terminated by little heads.—Richard. A spike is glomerate when it consists of a collection of spherical heads.—Willdenow.

Glom'erule, *glomer'ulus.* The small heads constituting a small glome, or head.

Gluma'ce'us. Glume-like, on bearing glumes, chaffs, husks.

Glume, *glu'ma.* Consists of the scales or chaffs which surround or enclose the stamens and pistls in the flowers of grasses. The lower ones are called the calyx, all others the corol. Bractae when placed immediately below the stamina and pistils, as in apetalous flowers, are only distinguished from the calyx by being alternate with each other, and not verticilate. Husks, glumes, or chaffs of corn or grasses are bracteae and not calyxes, in strict physiology.

Each scale, chaff, or husk, is called a valve; which gives the names *bivalve*, with 2 husks or chaffs; *univalve*, with one, &c.

When several flowers are arranged along a rachis in a spikelet with a valve or two, or more, below the lowest flower, these are called the common or general calyx (gluma communis;) and the glume to each floret on the spikelet above is called partial (gluma partialis.)

Glumo'se. Having glumes.

Glu'tinous. Having on some part more or less of adhesive moisture.

Goblet-shaped, *(crateriformis,)* concave hemispherical, a little contracted at the base.

Gongylous, *Gon'gulus.* A knot. It is applied to a round, hard body, which falls off upon the death of the mother plant or animal, and be-

comes a new one; as in the *fucus* and some radiated animals. Large granulated sporules are contained in the centre of some.

GONOP'TERIDES. Angle fruit fern, one of the new orders of ferns. The receptacles of the fruit are polygons; as of the genus Equisetum.

GRAM'INA. The family of grasses. See gentes. But in a limited sense, the sedges, rush grasses, &c. are not included. See Natural Orders. Culmiferous is the most extensive term; and most of this vast family have three stamens in each flower, though many of them are monœcious. The rice, star-grass and rush-grass have six stamens to the flower.

Graminifol'ius. Having leaves resembling those of grasses.

Grandiflo'rus. Having large flowers.

Grani'ferus. Bearing grains or kernels; as those on the valves of dock-flowers.

GRAN'ULATE, *granula'tus.* In the form of grains. A granulate root consists of several little knobs strung together along the side of a filiform radical. It differs from the knobbed tuberous roots, in this; that the lattter are strung together by rootlets, which proceed from near the middle of one knob to another.

GRANULA'TIONS. Grain-like substances.

Graveolens. Having a strong odour or scent.

Greasy, (unctius); having a surface which, though not actually greasy, feels so.

GREGARIOUS. In flocks, applied to fungi and other plants growing together in groups; but not so as to be cæspitose, or to form a turfy mass.

GRESSORAL. Bird's feet, which are formed for running; having three toes forward and one back, and the two outer toes mostly joined towards the base.

Grumous (grumosus;) in form of little clustered grains.

GUITAR'FORM. See panduriformis. Fiddle-form.

Gymnocarpi fun'gi. Such as bear seeds in a naked *hymenium,* which see.

Gymnosper'mus (*Gumnos,* naked; *sperma,* seed.) With seeds naked, or growing without pericarps.

GYNANDROUS. (*Gune,* woman: *aner,* man.) Applied when stamens grow on pistils, but not in immediate connexion with the calyx or corol.

H.

Habia'tio. The native residence of plants: or the situation wherein they grow most naturally.

HAB'IT, *habi'tus.* The external appearance of a plant by a general view of which we know it without attending to any of its essential characters.

A knowledge of the habits of plants is to be acquired, by first seeing them in a growing state, and then by repeatedly reviewing them in an *herbarium.*

HAL'BERT-FORM. See hastate.

HALTERS. Globules on slender stems under the wings of some two-winged insects, called poisers.

HALV'ED. One sided, as if one half had been taken off; as the halved spathe of some Indian-turnips, one-sided involucres, &c.

Ha'mus, Hamosus. A hook, as the hooked spines on burdock.

HAS'TATE. Halbert-form, or shaped like an espontoon. A leaf with processes near the base from each edge, which are acutish; as common sorrel leaves. When these processes point considerably backwards the leaf is sagittate.

HEAD. Flowers heaped together in a roundish form with no peduncles or very short ones; as clover-heads. This term is applied to a globular stigma also.

HEAP'ED. Compact, but hardly as close as *dense.*

HEART'-FORM. See cordate.

HEART-WOOD, the dead and fully formed central layers are called the heart-wood.

HEDGE'HOGGED. See echinate.

HEL'MET. See labiate. Upper-lip of a labiate corol.

HELMINTHOLOGY. The science of worms, including molluscous and radiated animals.

HELVOLUS. Pale red. Peach-bloom.

HEPATICÆ. The third order of the class Cryptogamia. It includes the hepatic mosses, as denominated by Schweinitz; that is, those which have the fructification spread cruciformly, and have succulent leaves; the brook-liverwort is an example, (marchantia.)

HEPTAGYNIA. Seven-styled.

HEPTANDRIA. (*Hepta*, seven; *aner*, male.) Having seven stamens to the flower. A small class; the chick-wintergreen, (trientalis,) is our best example.

HEPTAN'DROUS. Belonging to, or varying into, the class heptandria.

HERB, *herba.* Any plant which has not a woody stem.

HERBA'CEOUS. Not woody. Also applied to plants perishing to the root.

HERBAGE. All that part of vegetables which is bounded by the root below, and by the fructification above.

HERBA'RIUM. A collection of dried plants. No person can ever become a good practical botanist without an herbarium. The uses of an herbarium are principally two.

1. *To revive in the memory the names and habits of plants.*

2. *When plants are not in flower, they often want some of their most striking habits. In such cases comparison is essential.* No directions can be sufficient. The teacher must learn, mechanically, how to direct his pupils in collecting and preserving plants.

Herba'rius. An herbist. One who collects and sells plants.

HERMAPH'RODITE. See perfect flower.

HEXAGYN'IA. (*Hex*, six; *gune*, female.) The sixth order of any of the first classes as far as Polyandria. Six styles or stigmas to each flower.

HEXAN'DRIA. (*Hex*, six; *aner*, male.) The sixth class; six stamens to each flower.

HEXAN'DROUS. Belonging to, or varying into, the class *hexandria.*

Hexapetaloi'des. A one-petalled corol so deeply divided as to appear 6-petalled.

HI'LUM. The external scar or mark on a seed, where the funicle, or thread, is attached to it and conveys its nutriment till ripe. It indicates the union of the seed with the placenta, often called the umbilicus. The hilum represents the base of the seed; the apex is de-

termined by the point where the vessels, or tissue, of the integuments concentrate.

HINGE. The part of a bivalve shell, where the two valves are united by a flexible cartilage.

HINOIDEUS. Whence all the veins proceed and are parallel and undivided.

HIR'SUTE, *hirsutus*. Rough-haired. Covered with stiffish hairs, but hardly stiff enough to be called bristles.

Hir'tus. Covered with short stiff hairs. Nearly the same as hirsute.

HIS'PID, *hispidus*. Bristly. Beset with stiff hairs or rather with bristles, which are short.

Hiulcus. Cracked open: a gaping chink.

HOAR'Y. Whitish colored, arising from a scaly mealiness, or short, dense hairs.

HOLERA'CEUS. Suitable for a pot herb, as dock and beets.

HOL'LOWS, (thalamia.) That kind of receptacle of *lichens*, which is spherical, nearly closed, lodged in the substance of the frond, lined with its proper coat, under which are cells 2 or 4-seeded. Each hollow finally opens by an orifice in the surface of the frond above. Smith.

HOMOTROPAL, *(homotropus.)* Having the same direction as the body to which it belongs, but not being straight.

HONEY-COMBED, *(favosus, alveolatus.)* Excavated in the manner of a section of honey-comb.

HOOKED, *(uncinatus.)* Curved suddenly back at the point.

HORIZON'TAL. Parallel to the horizon. Leaves are horizontal, when they form right angles with erect stems.

HORN'-FORM. Shaped like a horn, or rather like a cock's spur. See spur.

Hu'midus. Moist, humid.

HU'MIFUSE, *humifusus*. Spread over the ground. Richard defines it; spread on the ground and not rooting.

Hum'ilis. Low, humble.

HUSK. The larger kind of glume; as the husks of Indian corn.

HY'ALINE, *hyal'inus*. Colorless. Transparent like glass or water; as quartz in granite.

HYBER'NICLE, *hybernac'ulum*. See bud. Winter residence.

Hybernalis. Growing in the winter season.

HY'BRID, *hy'brida*. A mule. A vegetable produced by the mixture of two different species. The seeds of hybrids will not propagate. They are produced by sprinkling the stigma with the pollen of a different species. Care must be taken in such cases to prevent any pollen of its own species from falling on it first.

HYDROP'TERIDES. Water fern. A new order of ferns. It is adopted by Pursh, Torrey, &c. Isoetes, azolla and salvina are placed here.

Hyema'lis. Growing in the winter season.

Hyme'nium. An exposed or naked, dilated, appropriate, membrane of gymnocarp fungi, in which the seeds are imbedded: the part in which the sporules immediately lie. In Agaricus, it consists of parallel plates, lamellae, or gills: these are adnate with the stipes, when the end next it cohere with it.

HYPERDECANDROUS. Flowers containing more than ten stamens.

HYPHA. The filamentous, fleshy, warty thallus, or bissus.

Hypocrateri'formis. See salver-form; flat-bordered tube.

HYPODECANDROUS. Flowers containing fewer than ten stamens.
Hypog'ynus. Under the style; or growing from below the base of the germ, or ovarium; or when the stamens do not contract any union with the sides of the calyx they are hypoginous.
Hysteranthus, when the leaves appear after the flower, as some willows, peaches, &c.

I. J.

ICTHYOLOGY. The department of Zoology, which treats of fish. It includes those aquatic animals which have gills and fins.
Icones planta'rum. Figures or drawings of plants.
ICOSAN'DRIA. (*Eikosi,* twenty; *aner,* male.) More than 10 stamens. The calyx is always monophyllous, and the claws of the petals fixed into the side of it along within the stamens. *Calycandrous* is a name embracing plants of this class. Darlington.
ICOSAN'DROUS. Belonging to, or varying into, the class *icosandria.*
Icterus. Jaundice. The change of colour of leaves in autumn, to yellow, redish, &c. as maple.
IMAGO. A perfect, full-formed insect. It is applied to express the state of an insect, after it has passed from the crysalis to the insect state.
Imber'bis. Beardless. See beard.
IM'BRICATE, *imbricatus.* Leaves, scales, &c. lying over each other, or one covering the place where two others meet, like the shingles or tiles on a roof.
IMMARGINATE. Having no border or peculiar margin.
Im'pari-pinna'tus. Unequally pinnate. When a pinnate leaf is terminated by a single or odd leafet.
IMPER'FECT, *imperfectus.* Wanting the stamen or pistil. No flower is perfect without both organs; but with an anther and stigma the flower is perfect, though destitute of calyx and corol.
Inæquivalva'tus. Valves of capsule or glume unequal.
Ina'nis. Having a spongy pith.
Inaper'tus. Hollow, but without any opening.
Inca'nus. See hoary. Whitish.
Incarna'tus. Flesh-colored.
INCI'SED, *Incisus.* Cut in like a gash with a knife, but not deep enough to be called a cleft. If the crenatures or serratures of a leaf are cut down, to appearance, with a slit or gash, this term applies.
INCISOR. Fore tooth. The flattish front cutting teeth.
INCLI'NED, *inclinatus.* Bent towards each other. Also bent towards something different.
INCLU'DING, *includens.* One thing containing another within it; as the calyx shutting up the seed capsule or corol.
Inclu'sus. Enclosing. Opposed to exsert. Stamens not projecting.
INCONSPICUOUS, *inconspic'uus.* Not apparent without the aid of a magnifier.
INCRAS'SATE. Thickening. When a flower-stem grows thicker upwards towards the flower.
IN'CREMENT. The quantity of increase for a given time.
INCUM'BENT, *incumbens.* Leaning upon or against. When an anther lies, as it were, somewhat horizontally upon the top of the filament.
IN'CURVED, *incurvatus.* Bent inwards. As a leaf bent in at the point

towards the stem, a filament towards the pistil, a prickle towards the stem.

INDIG'ENOUS. Plants, growing naturally and originally in a country.

INDISTINCT. Applied to insects, whose heads and trunks are in one piece.

Indivi'sus. Undivided. Not cleft into parts. It may however be serrate, crenate or toothed; it is therefore not the same as entire.

INDUPLICATE. See conduplicate. A leaf in the bud having its two sides shut like the leaves of a book; the midrib being in place of the back.

IN'DURATED, *indures'cens.* Becoming hard, tough, or leathery.

Indu'sium. A shirt. It is used by some authors for the thin membranous covering on the fruit of ferns. But Smith prefers retaining the old name, *involucre*, which see.

Iner'mis. See unarmed. Having no thorns, prickles, &c.

Infer'ne. Downwards. Towards or near the base or root.

INFE'RIOR, *inferus.* Below. A calyx or corol is inferior when it comes out below the germ. See germ.

In'fimus. At the very bottom or base, lowest.

INFLA'TED, *influ'tus.* Appearing as if blown up with wind. A very small degree of inflation is sometimes noticed in descriptions; as the calyx in *silene.*

INFLEX'ED, *inflex'us.* The same as incurved. Suddenly bent inwards.

INFLORES'CENCE, *inflorescen'tia.* The mode by which flowers are connected to the plant by the peduncle. It is of 10 kinds. 1. Whorl. 2. Raceme. 3. Panicle. 4. Thyrse. 5. Spike. 6. Umbel. 7. Cyme. 8. Corymb. 9. Fascicle. 10. Head. See each in its place.

Infrac'tus. Bent in with such an acute angle as to appear as if broken.

Infundibilifor'mis. See funnel-form.

Inquinans. Stained. Applied to fungi, &c. when the color appears as if painted on artificially.

Ino'dorus. Having no smell.

Insigni'tus. Marked with.

Instruc'tus. Furnished with.

Integer'rimus. Very entire, having no dentation whatever.

INTERCELLULAR PASSAGES. If the adhesion of the contiguous cells be imperfect, (and it frequently is,) spaces will exist between them; such spaces are called intercellular passages.

INTERFOLIA'CEOUS. Situated along the stem between the origin of the leaves, not opposite to them.

Interme'dius. Between two extremes, or nearly so.

INTERNO'DE, *interno'dius.* The space between joints or knots.

INTERRUP'TED, *interrup'tus, interrup'te.* When organs of a different kind or different size, are intermixed or interposed among a series. A spike is interrupted, when leaves or smaller flowers are interposed at intervals.

INTERRUPTEDLY PIN'NATE. When smaller leafets are interposed among the larger: as the potatoe and agrimon leaves.

INTERSCAP'ULARS. The back feathers of a bird, between the bases of the wings.

INTOR'SION, *intor'sio.* Twisting, twining, or bending inwards, from a straight upright position. See twining, contorted, and twisted inwards.

INTRAFOLIACEUS. Within the leaf. A stipule is intrafoliaceous, when it originates a little above the origin of the petiole, which brings it, as it were, within the bosom of the leaf.

INTRODU'CED. Not originally native. Brought from some other country.

Intror'sum. Inwardly. Turned inwards.

INVERTED. Having a part of an organ in an opposite direction to that of other analagous parts.

INVOLU'CRE, *involu'crum.* That kind of calyx which comes out at a distance below the flower, and never encloses it like the spathe, of a leafy texture and color, generally at the origin of peduncles of umbels. When it is all on one side, it is called *dimidiate*, halved. Some botanists substitute involucre for the common calyx of compound flowers; others use *periclinum*, *periphoranthium*, &c.

Involucres of ferns generally lie on the tops of the capsules, like a piece of linen spread out to dry; hence they are called *indusium*, a shirt.

INVOLU'CRED, *involucra'tus.* Having involucres.

IN'VOLUTE, *involu'tus.* Rolled inwards. A term in foliation; applied to leaves whose opposite margins are rolled in and continued rolling, till the two rolls meet on the midrib and parallel to it. Applied to shells it signifies, that the spire is in whorls which are concealed within the shell, as cypraea.

JOINTS. Swelling knots, rings, or narrowed interstices, at regular intervals, along culms, pods, spikes, leaves, &c.

IRID'EOUS, Iridescent. Reflecting light somewhat like a rain-bow.

IRREG'ULAR, *irregula'ris.* Differing in figure, size or proportion of parts, among themselves.

IRRITABIL'ITY. The power of being excited so as to produce contractile motion.

ISH. A terminal diminutive, as round*ish*, *somewhat* round.

Isos, (equal) placed before the name of an organ, indicates that it is equal in number to that of some other understood; thus *isostamenous* is said of plants the stamens of which are equal in number to the extent of the purpose in view.

Isthmus. Long narrow joints in legumes or loments.

Jug'um. Yoke. In pairs.

Ju'lus. See ament. A cylindrical (or semi-cylindric) centipede. A cylindrical ament.

K.

KEEL. The lower petal of a papilionaceous corol. The stamens and pistils lie enclosed in it.

KEEL'ED. Having a ridge resembling the keel of a boat or ship. A leaf, capsule, calyx, &c. is keeled when it has the midrib, angle, or peculiar process, running along the back, of a compressed form, and attached by one edge.

KID'NEY-FORM. Hollowed in at the base with rounded lobes and rounded end. Its breadth is generally as great as its length.

KNOB'BED. In thick lumps; as potatoes.

KNOBS. (Cephalo'dia.) That kind of receptacle of lichens, which is convex, more or less globular, covered externally with a colored seed-

bearing crust, and placed generally at the extremities of stalks, originating from the frond, permanent; rarely sessile. Sometimes they are at first *spangles* on filamentous lichens, and afterwards become convex irregular knobs. They are simple, compound or conglomerate. Smith.

KNOT. A swelling joint. See joints.

KNOT'TED. Having swelling joints. See Torulose and Torose.

L.

LA'BIATE. Having lips; or a calyx or corol divided at the top into two general parts; somewhat resembling the lips of a horse or other animal, by the aid of imagination.

Labiate corols are divided into *ringent* and *personate*.

Ringent, such as have the lips open or gaping, as sage.

Personate, such as have the lips closed or muffled, as toad-flax.

Labyrinthifor'mis. Winding and turning by various involutions and contortions like a labyrinth.

LAC'ERATED, *lace'rus*. Torn. Cut, or apparently torn, into irregular segments.

Lacin'ia. The divisions of a calyx, corol, leaf, &c. into which they are cleft, torn or divided.

LACIN'IATE, *lacinia'tus*. Jagged. Irregularly divided and subdivided, cut or torn. Hardly different from lacerated.

LACTES'CENCE, *lactescen'tia*. Milkiness. The milky juice of some plants: as the milkweed (asclepias.) It is also called by this name, when the juice is red; as in the bloodroot (sanginaria.)

Lac'teus. Milk-white.

Lacunae. Small hollows or pits on the upper surface of the thallus.

LACU'NOSE, *Lacunos'us*. Pitted. Hollow between the veins of a leaf, when the blisters are under side of the leaf instead of the upper. Also applied to pits.

Lacus'tris. Growing most naturally in or about lakes.

La'vis. Smooth, even, polished; not striate, or wrinkled.

Lamel'la. A thin plate. Applied to the gills or vertical plates under the hat or pileus of the agaric fungus, or toadstool.

—— *equa'lis*. When all the gills reach from the stem to the margin of the hat.

—— *inequa'lis*, or *interrup'tus*. When some reach but part of the way.

—— *biseria'lis*. When a long and short gill alternate.

—— *triseria'lis*. When one long and two short gills alternate in pairs.

—— *ramo'sa*. When several gills unite in one, so as to appear branched.

—— *decur'rens*. When they run down the stem more or less.

—— *veno'sæ*. When so narrow as to have the appearance of veins.

LAMEL'LAE. Applied to the two terminal plates of the antennae of some insects; also to somewhat similar plates constituting the stigma at the end of some styles, as the convovulus, bindweed.

LAMELLATE. In the form of thin plates, or having thin plates.

LAM'INA. The broad upper part of the petal of a polypetalous corol. See petal.

LAMINATED. Consisting of several thin flat portions.

La'nate, *lana'tus*. Woolly. Covered with curly, crooked, close, thick pubescence. Not so fine, nor so closely matted together as *tomentose*.

Lance'olate, *lanceola'tus*. In the form of the lance of the ancients. When the length greatly exceeds the breadth and it tapers gradually from near the base to the apex.

Lance-o'vate, &c. *lanceolatova'tus*, &c. Partaking of the lanceolate form and of that with which it is compounded.

Lanu'go. Down, or wool.

Lappula'ceus. Burr-like, roundish and prickly, as burdock.

Larva. The caterpillar state of an insect. It is called maggot, skipper and grub, while in this state.

Laterifol'ius. Side-leaved, inclining to one side.

Latifol'ius. Broad leaved.

Lateri'tius. Brick-coloured, reddish.

Latticed. Resembling net-work.

Lax, *Lax'us*. Limber, loose, open, weakly flexile. See flaccid.

Leaf. That part of most vegetables, which presents more surface to the atmosphere, than all other parts; and consists principally of the cellular integument covered with the cuticle.

They are *evergreen*, remaining through the winter; or *decid'uous*, falling off at the close of the year.

They are further distinguished by their *forms*, *surfaces* and *positions*. All of which are described under their peculiar names.

Leaf buds. (gemma;) being the rudiments of young branches, they consist of scales imbricated or otherwise disposed over each other, surrounding a minute axis. Bulb is a leaf bud of the root.

Leafing season. That time in the year when most leaves come out. In North America, the proper leafing season is in April.

Leaf'et, or Leaf'let. One of the lesser leaves which, with others, constitute a compound leaf. A simple leaf is never a leafet, however small.

Leaf'less. Destitute of leaves, naturally. This term does not apply in cases of *defoliation*, in due season.

Leaf-like, (*foliaceous*) having the texture and form of a leaf.

Legu'me, *legu'men*. A pod, without a longitudinal partition, with its enclosed seeds attached to one suture only; as the pea. Those with transverse partitions are usually called *loments*.

Length and Breadth. When applied to bivalve shells, *length* is measured from the beak or cartilage to the margin below, and *breadth* is taken in a transverse direction to the length.

Lentic'ular, *lenticula'ris*. Lentilform. It is applied to a kind of glandular roughness on the surface of some plants. They are brown oval spots found upon the bark of many plants especially willows; they indicate the points from which roots will appear if the branch be placed in circumstances favourable to their production. Form of a convex lens.

Lepan'thium. Used as a substitute for some kinds of nectary by Nuttall, De Lamark, &c.

Lep'rous. Covered with peltate or sub-peltate scales, mostly white or whitish. Patches of Lichens often give woody plants a leprous appearance.

Li'ber. The innermost layer of the bark, or the last year's deposit. Smith.

Lib'era. Free, not adnate, or attached.

LI'CHENES. The fifth order of the class Cryptogamia. It includes the greenish, brown, yellow, red, grey, &c. patches on old fences, stones, trees, &c.; also some grey fibrous moss-like bodies.

LIGAMENT-PERFORATION. A perforation through the shell of the *anomia* genus, by which it is attached to rocks, &c.

LIGHT. Various motions and inclinations of plants prove the effect of light upon them. Trees present their leaves outward in quest of light, because it is darkest in the centre. Plants in a green-house all present the upper surfaces of their leaves towards the enlightened side of it. Most compound flowers follow the sun through the day. Plants deprived of the light lose their green hue; as potatoe-tops growing in a dark cellar.

LIG'ULA. A strap or strap-form organ. It is generally applied to the membrane or stipule at the top of the sheath of a grass-leaf.

LIG'ULATE, *ligula'tus.* That kind of floret, in some compound flowers, which consists of a single strap-like petal which becomes tubular at the base only; as all the florets in a dandelion, and the ray florets in a sun-flower.

LILIA'CEOUS. A corol with six petals spreading gradually from the base, so as altogether to exhibit a bell-form appearance.

LIMB, *lim'bus.* The broad spreading part of the petal of a monopetalous corol. When applied to shells it means the whole circumference or outlines of them.

LINE, *li'nea.* The breadth of the crescent at the root of the finger nail. Twelfth part of an inch.

LIN'EAR, *linea'ris.* Continuing nearly of the same breadth throughout most of the extent. Linear leaves always, or with very few exceptions, become narrowed or pointed at one or both ends.

LIN'EATE, *lineatus.* Marked with lines. Striated.

Lin'guiform Tongue-like. Thick, fleshy, linear, blunt at the end.

LIP, or LIP'PED. See labiate. When applied to univalve shells, it means the outer expanded part of the opening.

Lirel'lae. See clefts. Linear shields, such as are found in Opegrapha, with a channel along its middle.

LIT'TLE, (*exiguus*) applied to whatever is less than similar or analagous parts or things, are generally.

Littora'lis. Growing on the sea-coast; also on the shores of rivers.

Liv'idus. Livid. Dark grey, inclining to violet, like bruised eyes.

LOBE, *lo'bus.* Divisions which are rounded, or parted by rounded or curved incisions. Sometimes it seems to be applied to cases where it has nothing to distinguish it from a segment cut off by a cleft incision, except by its being larger.

LO'BED, *loba'tus.* Divided into lobes. Deeply parted with the segments distant or spreading and large.

Loculamen'tum. See cell. Cavities containing seeds.

Loc'ulus. The little cell of an anther, which contains pollen, is used by Acharius to express a filamentous branched thallus.

LO'MENT, *lomen'tum.* A legume pod with transverse partitions. This term is generally applied to the legumes in the natural order Lomentaceæ.

Longifol'ius. Long-leaved. See relative proportions.

Lon'gus. Rather long. *Longis'simus.* Very long.

Loose. Open, not compact. Of a soft cellular texture, as piths.

Lo'res. The naked lines or spots on a bird's head between the eyes and the base of the bill.

Lo'rula. The long threads of Usnea. This lichen, so common on trees, is erroneously called moss by most people.

Low, (humils) plants not particularly small, but much smaller than kindred species.

Lu'cidus. Bright shining. Nearly the same as nitidus.

Lu'nulate, *Lunula'tus.* Shaped like a *crescent*, new-moon.

Lu'nule. A half-moon-like depression just below the beak of a bivalve shell. It is anterior or posterior according to the slope it is on. See slope.

Lu'rid, *lu'ridus.* Of a palish, dull, deathly color. Most plants with lurid petals are more or less poisonous; as tobacco, henbane, thorn-apple.

Lus'tre. The peculiar appearance of reflected light, as presented by a mineral.

Lutes'cent, *lutes'cens.* Approaching to a yellow color.

Lu'teus. Yellow. Being sometimes yellowish.

Luxu'riant, *luxur'ians.* See full-flowered. Over-growth.

Ly'rate, *lyra'tus.* Pinnatifid, with the divisions at the apex largest.

Ly'rate-pin'nate. Pinnate with the odd terminal leafet largest.

M.

Macula'tus. Spotted, dotted, punctured.

Mail'ed. Covered with a hard substance resembling armour.

Male, staminate, as used by some.

Man'dibles. The upper jaws of a bird's bill. It is also applied to the horizontal pincers attached to the mouth of some insects.

Man'icate, when hairs are interwoven into a mass that can be easily separated from the surface. Muff-like

Ma'ny. Whenever there are more than are usually numbered of that kind; as we say, 1-seeded, 2-seeded, 3-seeded, 4-seeded, many-seeded.

Marces'cent, *marces'cens*, or *mar'cidus.* See withering.

Mar'ginated, *margina'tus.* Having a margin differing in some measure from the disk.

Mar'gin, *mar'go.* The circumference or edge. See border. The circumference of a shell.

Mariti'mus. Growing naturally near the seaboard. It may be extended several miles from the water.

Mas'culus, staminate, as used by some.

Mat'rix. Gangue. The mineral immediately embracing an ore, within a vein in a rock.

Matu're, *matu'rus.* Full-grown, but not entered upon a state of decay.

Meal'y *(farinosus)* covered with a sort of white scurfy substance, having the texture of flour in mass; as the albumen of wheat.

Meas'ures. Proportion between parts is better than any measure. But when measures are adopted, they should be taken from parts of the hand and arm; because the parts of plants vary about as much as the hand; and in adopting these measures the same allowance should be made.

1. *Line*, the crescent at the root of the nail. About one twelfth of an inch. 2. *Nail* (unguis.) Length of the nail. About half an inch.

3. *Inch* (pollex.) Length of the first joint of the thumb. 4. *Palm.* Breadth of the four fingers. About three inches. 5. *Short'-span* (spithama.) Distance between ends of thumb and fore-finger. About seven inches.

Long'-span (dodrans.) Distance between ends of thumb and little finger. About nine inches.

Foot (pes.) Distance between the point of the elbow and the second joint of the thumb. About twelve inches.

Cu'bit (cub'itus.) Distance between the point of the elbow and of the middle finger. About 18 inches.

Arm (brachium.) Distance between armpit and the end of middle finger. About 24 inches.

Fathom. (orgya.) Distance between the ends of the middle fingers, when the arms are extended.

MEDIC'INAL, *medicina'lis.* Plants possessing principles sufficiently active to entitle them to a place in the *materia medica.*

Me'dius. In or near the middle. Middling.

Medul'la, pith, medullary, *(medullosus.)* Filled with spongy pith. See pith.

MEDULLARY RAYS, (silver grain.) Radiating plates, extending from the centre of trees to the periphery: very beautiful in oak trees, &c.

MEDULLARY SHEATH, surrounds the pith.

MELLIF'EROUS, *mellif'era.* Producing or containing honey.

Melli'go. Honey-dew on leaves; particularly walnut leaves.

MEMBRANA'CEOUS. Made up apparently of the two plates of the cuticle, without any cellular integument between them. Nearly transparent, very thin and colourless.

MEMBRANE, and FIBRE combined. Fibres twisted spirally, adhering to a spheroidal or angular membrane, and often anastomosing irregularly, without the spires touching each other, Membranous cellular tissue is that in which the sides consist of membrane only, without any trace of fibre; it is the most common, and was, till lately, supposed to be the only kind that exists. This sort of tissue, membranula, is to be considered the basis of vegetable structure, and the only form indispensable to a plant.

ME'THOD, *metho'dus.* A mode of arranging plants in classes, orders, &c. TOURNEFORT'S METHOD divides plants into *herbs* and *trees.* The herbaceous plants are divided into 17 classes. Fourteen of these are distinguished by the *form* of the *corols*; as, 1. *Infundibiliformis.* 2. *Personate*, &c. The other 3 classes are *apetalous*, and distinguished by *having stamens, but no apparent flowers nor apparent seed.* The Tree kinds are divided into 5 classes.

METRES of the French; are

Millemetre	—.03666+	of an inch.
Centimetre	—.3666+	of an inch.
Decimetre	3.666+	inches.
Metre	36.66+	inches.

MID'RIB. The main or middle rib of a leaf running from the stem to the apex.

Milia'ris. In the form of millet seed. Minute spherules.

Minia'tus. Scarlet, vermillion color. Sometimes red.

Minutis'simus. Extremely small or minute; unusually small.

MISSILE-TONGUE. When the animal can thrust the tongue far out of the mouth.

Mi'tre-form. Terminating in two divisions, in some measure resembling a bishop's mitre.

Mola'res. Grinders. Teeth farthest back; double teeth.

Mollus'cous animals. Those that have the medullary masses, in which the sentient principle resides, enveloped in a soft body; as the oyster.

MONADEL'PHIA. (*Monos*, one, *adelphos*, brother.) The class having stamens united by their filaments in one set; as hollyhock.

Monadel'phous. Belonging to, or varying into, the class *monadelphia*.

MONAN'DRIA (*Monos*, one, *aner*, male.) The class which has but one stamen to a flower.

Monil'iform. See granulate. Globular joints of antennae.

Monocar'pous. Bearing fruit but once, and dying after fructification; as wheat.

Monocotyle'dons. Plants whose seeds have but one cotyledon, or if two, then the cotyledons alternate with each other. See cotyledon.

MONŒ'CIA. (*Monos*, one, *oikos*, house.) The class which produces stamens and pistils in different flowers on the same plant; as Indian corn.

Monœ'cious, *monoi'cus*. Belonging to or varying into the class monœcia.

MONOGYN'IA. (*Monos*, one; *gune*, female.) One style or stigma.

Monopet'alous. The whole corol in one piece. Sometimes it it is so deeply parted, that it appears to be polypetalous until it is pulled off and closely examined at the base. In most monopetalous corols, the stamens are attached to the tubes. They are divided into bell-form, funnel-form, salver form, wheel-form, and labiate. When the petals are distinct, a corol is said to be polypetalous: when they are united by their margins it is called monopetalous. But each segment of the latter is truly a colored leaf, united in a whorl; the same rule applies to calyxes.

Monophyl'lous. (*Monos*, one, *phullon*, a leaf.) One-leafed. A calyx all in one piece. All the calyxes in the class *icosandria* are of this kind. They are often so deeply divided, that a student may mistake them for polyphyllous, without particular attention.

Monopteryg'ia. See wings. One-winged. Applies to ferns.

Monopyre'nus. Enclosing but one nut or stone; as the peach.

Monosper'mus. One seed to a flower; as wheat.

Monostac'hyos. (*Monos*, one, *stachus*, spike.) Single spiked.

Mon'strous. Plants producing any part different from the same part, when growing wild. As the rose has but five petals in a wild state; but, by rich cultivation in gardens, the stamens are mostly changed to petals. Carnations and peony are examples also.

Monta'nus. Growing most naturally on mountains. Alpine.

Mu'cidus. Resembling mouldiness, or mucor.

Mucous, *mucosus*. Covered with a slimy secretion; or with a coat that is readily soluble in water, and becomes slimy.

Mu'cronate, *mucrona'tus*. Having a rounded end tipped with a prickle; which often appears rather an extension of the midrib.

Multangula'ris. Many angled. Having several corners or ridges.

Multicapsula'ris. Many-capsuled. Several capsules to each flower.

Multican'lis. Producing many stems; as the lilac.

Mul'tifid, *multif'idus*. Many cleft. In many sections.

Multus. Many, in composition; as *multidentus*, (many-toothed;) mul-

tiflorus, (many-flowered;) *multilobus*, (many-lobed;) *multilocularis*, (many-celled;) *multipartitus*, (many-parted.)

Mul'tiplex. Many-fold. Having petals lying over each other in two rows.

MUL'TIPLIED, *multiplica'tus.* See full-flowered. Double flowered.

Multisiliquo'sus. Many pods proceeding from the same point.

MULTIVALVE, *multivalvis.* A glume with many chaffs or valves. Applied to shells it embraces the order, which has more than two shells to each animal.

Mu'tiens. Leaves drooping down and hanging over the stem, &c. at night.

Muni'tus. See fenced. Walled about.

MU'RICATE, *murica'tus.* Armed with sharp spines. Covered with subulate prickles.

Muscarifor'mis, (musca, fly.) Formed like a brush or fly-flap, with hairs at one end.

MUSCI, MOSSES. The second order of the class *cryptogamia.* All mosses have lids on the capsule.

MUSHROOM-HEADED, *(fungiformis, fungiliformis.)* Cylindrical stem, having a rounded, convex, overhanging extremity.

Mut'icus. See awnless.

MU'TILATED, *mutila'tus.* Not producing parts with their full, complete forms.

Mycelia. The rudiments of fungi, or the matter from which fungi are produced.

N.

NAIL, *unguis.* Half an inch or the length of the nail of the little finger.

NA'KED. Wanting a covering analagous to that of most plants. As stem without leaves, leaves without pubescence, corol without a calyx, seed without a pericarp, receptacle without chaff, pubescence, &c.

NAKED-SEED. Lindley says, "As all seeds are matured *ovula*, and, as all *ovula* are originally enclosed within an *ovarium;* it is obvious that naked seeds cannot exist." But by naked seeds Linneus meant, without a pericarp; as sage-seed. It is to be regretted that writers of high authority should, *so unnecessarily*, make a new application of "*naked seeded.*" In truth it is a gross absurdity; inasmuch as Linneus and his followers had so long applied the name "*tegument*" or "*integument,*" to the seed-covering. For we have only to say without, or with, the tegument, to convey the idea intended.

Na'nus. Dwarfish, very small.

NAP. See tomentose. Downy, or like fur on a hat.

Napifor'mis. Resembling a turnip. Very oblate spheroid.

NA'TANT, *nat'ans.* Floating. When the plant is fixed by the root at the bottom and its leaves float on the top of the water, as the pond lily, (nymphæa.) Animals with the faculty of swimming.

NAT'URAL HIS'TORY. That department of science, which treats of the productions of nature as they come from the hand of the Creator; without any decomposition or chemical changes.

NAT'URAL OR'DERS. An arrangement of plants according to their natural affinities.

NAVIC'ULAR, *navicula'ris.* See boat-form.

NAY'ANT. Floating. When animals float, without the effort of swimming, they are nayant.

NECESSA'RIA, polygamia. The fourth order of class syngenesia, which has the disk florets all staminate and the ray florets pistillate.

NECK. The upper part of the tube of a corol. Also the point, or small space, from which the root of a plant proceeds downward and the stem upwards, it is generally just at the surface of the earth.

NECKLACE-FORM, (moniliformis, nodosus;) cylindrical or terete, and contracted at regular intervals, resembling beads.

NECTARIF'EROUS. Bearing nectaries. Producing honey.

NEC'TARY, *necta'rium.* The part of a flower, which secretes honey. It is either a distinct horn, gland, spur, scale, cup, &c. or the claw or some other part of the corol secreting honey. This name is applied to any appendage to the flower, which has no other name.

NEEDLE-FORM, *(acerosus.)* Linear, rigid tapering into a fine point from a narrow base.

Nemoro'sus. Growing naturally in groves, where the under brush is cleared away.

NERVO'SE NERVED, *nervo'sus.* Leaves are nerved, when they have rib-like fibres running from the base towards the apex. In numbering nerves for a specific character, the midrib is counted with the lateral nerves.

NET'TED, *(reticulatus.)* covered with reticulated lines which project a little.

NEU'TRAL. Having neither stamens nor pistils, consequently barren: as the ray-florets of the sun-flower.

NIC'TITANT MEMBRANE. A semi-transparent membrane, which covers the eyes of some animals at pleasure, as frog.

Ni'dulans. Nesting. When seeds are placed in cotton, as in a nest.

*Ni'grican*s. Blackish, sooty.

Ni'gro-cæru'leus. Dark-blue.

Ni'sus-formati'vus. That principle of vital energy, which tends to restore lost or injured parts.

Nit'idus. Glossy, glittering.

Niv'eus. Snow-white.

NODE, *No'dus.* See knot. Used by Barton for internode.

NOD'ULE. A spheroidal mass of any mineral substance.

No'men, NAME. See generic name and specific name.

NOR'MAL, (*normalis*) ordinary structure in nowise departed from: elementary form.

Nu'bilus. Grey and white, cloudy. Resembling cumulous clouds, or heaped.

Nucamen'tum. See ament. Elongated strobile.

NU'CIFORM. Resembling a nut.

Nuc'leus. Nut or kernel. The inner seed or kernel is properly the nucleus; and its hard shell is the putamen. But the whole including both putamen and nucleus, is the nut, *nux.* It is also a distinct cartilaginous body, coming out entire from a proligerus apothecia, and containing the sporules; or it is the central part of a perithecium. From some recent observations it appears that the nucleus consists of three coats, the outer called the *tercine*, the next the *quartine*, and the most interior the *quintine.*

Nucula, one of the apothecia of Chara, sessile, oval solitary, spirally striated, with a membranous covering, and the summit indistinctly cleft into five segments, containing sporules.

Nudius'culus, *Nudus*. Nakedish, naked.

NU'TANT, *Nu'tans*. Nodding. When above half of whatever it is applied to, droops or hangs down. See *pendulus*.

Nuta'tio. The various inclinations of the parts arising from the effect of the sun's rays.

O.

Ob, *obver'se*. Reversed or inversed. Often combined with ovate, cordate, &c. as obcordate, inversely heart-form.

OBCON'IC. Conic with the point, or apex, downwards.

OBCOR'DATE. Heart-form, with the apex next to the stem, or place of insertion.

OBLANCE'OLATE. Lanceolate with the base the narrowest.

OBLI'QUE, *obli'quus*. A position between horizontal and vertical; or between perpendicular and the plane of the base. It is also applied to leaves, petals, calyxes, &c. which are, as it were, cut obliquely; or whose bases are shorter on one side than on the other.

OBLONG, *oblon'gus*. Having the length twice or more than that of the breadth, with the opposite sides somewhat parallel.

Oblongius'culus. Somewhat oblong.

OBO'VAL, *obova'lis* If it differs at all from obovate, it must be more nearly oval—having the ends nearer equal in width.

OBO'VATE. Ovate, with the narrowest end towards the stem or place of insertion.

OB'SOLETE, *ob'soletely*, *obsole'tus*, *obso'lete*. When teeth, notches, serratures, &c. are obscure and appear as if worn out.

OBTU'SE. See obtusus, rounded.

Obtu'se-acumina'tus. Blunt with a small point.

Obtu'sus, OBTUSE, *obtusius'culus*. Obtusish. Ending bluntly, or in an apex more or less rounded.

OB'VOLUTE, *ob'volu'tus*. A term in foliation; applied to leaves where two opposite ones are conduplicate, with one edge of each leaf between the edges of the other.

OCCIP'ITAL. Pertaining to the back part of the head.

OCELL'ATE. Eye-like spots, as on the wings of some butterflies.

O'chrea. A cylindric sheath or stipule. It is applied to the membranaceous stipules of most of the species of Polygonum; also of some species of Cyperus.

OCTAN'DRIA, (*Octo*, eight; *aner*, male.) Eighth of the Linnean classes, with 8 stamens to a flower.

OCTAN'DROUS. Belonging to, or varying into, the class *octandria*.

OCTOGYNIA. (*Octo*, eight; *gune*, female.) The eighth order of a class, it having 8 styles to a flower, or sessile stigmas.

Octo, eight in composition; as octofidus, 8-cleft, octolocularis, 8-celled, octopetalous, 8-petalled, octophyllus, 8-leaved.

Odora'tus. Scented, odorous.

Officina'lis. Such plants as are sold in the shops for some use, either in medicine or the arts.

OFF'SETT is a short lateral branch in some herbaceous plants, terminated by a cluster of leaves, and capable of taking root when separated.

OID, *Oi'dos.* When this terminates a word it imports resemblance to the part or plant to whose name it is annexed. Petaloid, resembling a petal; thalictroides, resembling a Thalictrum, &c.

Oligosper'mus. Few-seeded.

OLEAG'INOUS (*oleagino'sus;*) fleshy in substance, but filled with oil.

Ol'igos (few.) means that the number is small, not definite.

One-si'ded. Flowers, &c. on one-side of a stem, &c.

OPA'QUE, *opa'cus.* Neither transparent nor shining.

OPER'CULATE, *opercula'tus.* Having a lid, as mosses.

Oper'culum. The lid or covering on the capsule of mosses. This is generally covered by the calyptre when young. After the calyptre is gone and the seeds are ripe, the lid falls also. This term is also applied to the covering of other capsules, resembling the lids of mosses. When applied to Conchology, it means a cartilaginous, crusty, or shelly appendage to the animal by which it closes its shell after its body is drawn into a univalve shell.

OP'POSITE, *oppos'itus.* Standing at the same height with base against base, on different sides of a stem.

Oppositifol'ius. Set opposite to the base of a leaf; as some peduncles and stipules are placed.

Oppos'ite-pinna'tus. Leafets of a pinnate leaf set opposite to each other.

Orbicula'ris. Nearly circular.

ORBS. *Orbil'lae.* That kind of receptacle of lichens, which is flat, orbicular and dilated, of the substance of the frond, terminal, peltate, without a border, but often surrounded with radiating shoots. The membrane, or disk, under which the seeds are lodged, is smooth, nearly of the color of the frond. Spurious orbs, bordered like shields or spangles when young, are sometimes found in the genus *cornicularia.* Smith.

ORCHID'EOUS CO'ROL. Like the orchis; having 4-arched petals, and the fifth longer.

OR'GYA. Fathom. See measures.

OR'IFICK. Any hole or opening into a capsule, corol, &c.

ORNITHOL'OGY. That department of zoology, which treats of birds.

OSTIO'LUM (*os, oris,* mouth). The orifice of the perithecium of sphaeria. A little mouth.

OV'AL, *ova'lis.* The length exceeding the breadth in any proportion, with the two ends of an equal breadth, curvature and form, or nearly so; the sides curving from end to end.

Ova'rium. The germ or base of the pistil. A hollow case, enclosing ovula; it contains one or more cavities, called cells.

O'VATE. Egg-form. The length exceeding the breadth, in any proportion, the end next to the stem, exceeding the other in breadth; the sides curving from end to end.

OVI'PAROUS. Animals produced from eggs, as birds, fish, &c.

OVOI'DAL, (*ovum,* egg, *oidos,* appearance) resembling an egg, in general form, or the longitudinal section of it.

Ov'ulum, is a body borne by the placenta and destined to become a seed.

P.

Pa'gina. The surface of a leaf. The upper surface is *pagina superior;* the lower surface, *pagina inferior.*

PAL'ATE. A prominence, process or elevation in the lower lip of a labiate corol, which tends more or less to close the throat.

PALEA'CEOUS, *palea*, chaffs. See chaffy.

Pulma'ris. Hands' breadths, 3 inches.

PAL'MATE, *palma'tus.* Divided deeply and spreading, so as to resemble the hand with spread fingers. When the divisions are very narrow and almost down to the stem of a leaf, it is called *pedate*, from its supposed rescemblance to a bird's foot. Some pedate leaves are hardly connected at all at the base, and almost run into the compound *digitate* leaf.

PAL'PI. Feelers. Processes or fibres attached to the mouths of insects.

Palus'tris. Growing naturally in swamps and marshes.

Pandurifor'mis. Guitar-form, or fiddle-form. Oblong, broadish near the base and contracted on the sides.

PAN'ICLE, *panic'ula.* When the peduncles along the sides of the main peduncle of a raceme, are divided, it takes the name of panicle; as oats. But if it is still in a close, compact form, it is called a *thyrse*, as the lilac, grapes.

PAN'ICLED, *panicula'tus.* Disposed in the form of a panicle; or bearing panicles.

PAPILIONA'CEOUS, (*Papilio*, a butterfly.) Butter-fly-form; as the pea-flower. When complete, it consists of the *banner*, the upper petal which generally spreads over above the others; the *wings*, the two side petals, next below the banner; the *keel*, the lower boat-form petal, generally enclosing the stamens and pistil. It is sometimes called the *pea-bloom* flower.

PAPIL'LA. Fleshy process or points on vegetables and animals.

PAPILLO'SE, *papillo'sus.* (*Papilla*, a nipple.) Covered with fleshy points or protuberances. See verrucose.

PAPPOSE, *pappo'sus.* Bearing pappus or aigrette, as thistles.

Pap'pus. See aigrette. Seed down, of thistles, &c.

PAPULO'SE, *papulo'sus.* (*Papula*, a pimple.) Pimply, bladdery or blistered.

PAPYRACEUS (*chartaceus.*) Having the consistence of writing paper, and quite opaque.

PARABOL'IC. Conic, with the top rounded off, considerably below where it would terminate in the apex, if completed in the conic form.

PAR'ALLEL, *parallel'lus.* Two lines or opposite sides, running nearly equal distances from each other. The opposite edges of a leaf are parallel when the leaf is linear, as of grasses.

PARASIT'IC. Drawing support from another plant. Growing out of another; as the dodder.

Paren'chyma. A succulent vegetable substance: as the thick part of leaves between the opposite cuticles, the substance of the pith of herbs, the pulpy part of apples, &c.

PARI'ETAL, *parieta'lis.* Walled around. Having an enclosing or encircling ring.

PAR'TED, *partitus.* Deeply divided, almost to the base.

Par'tes prima'riæ. The three primary parts of a vegetable are: 1. The *root*, or descending part. 2. The *herbage*, or ascending part except; 3. The *fructification*, comprising the flower and fruit.

PAR'TIAL, *partia'lis.* Particular, not general. Applying to an entire part of a general whole. See general.

PAR'TIBLE, *parti'bilis.* Easily separating into parts. Bipartibile, into 2 parts. Tripartibile, into three parts, &c.

PARTIT'ION. The membrane, &c. which divides pericarps into cells. It is *parallel* when it unites with the valves, where they unite with each other. It is *contrary* or *transverse*, when it meets a valve in the middle, or in any part not at its suture, or juncture with another.

Patellifor'mis. Knee-pan-like. Thick concavo-convex, round with the convex surface below.

Patel'lula. See spangles; orbicular sessile shields, surrounded by a rim, which is part of itself, not a production of the thallus; as in Lecidia.

Pa'tens. Spreading so as to form a moderately acute angle; considerably less than a right one, or a square.

Patentis'simus. Spreading almost to a right angle; very spreading.

Pat'ulus. Somewhat spreading, open, loose.

Pau'ci. Few in number. Used in composition, as *pauciflorus*, few-flowered, *paucifolius*, few leaved.

PE'A-BLOOM. See papilionaceous.

PEAR'-FORM, (pyriformis); differing from turbinate in being more elongated.

PEC'TINATE, PEC'TINATED, *pectina'tus.* So finely pinnate or pinnatifid as to resemble the teeth of a comb.

PEC'TORAL FINS. A pair growing on each side of the thorax, or breast.

Peda'lis. About a foot high.

PE'DATE, *pedatifid, pedatus*, finely palmate. Bird-foot like.

PED'ICEL, *pedicellus.* A partial peduncle of an aggregate.

PED'ICELLED, PEDICELLATE, *pedicella'tus.* Having a pedicel.

PE'DUNCLE. Pedunculus. Flower stem, not radical.

PE'DUNCLED, *pedunculatus.* Having a peduncle, not radical.

Pedunculaʹris. Appertaining to, or fixed on, a peduncle.

PELL'ICLE, *pelli'cula.* A thin membrane-like substance. The close covering of some seeds; sometimes it is a little mucilaginous or downy.

PELLU'CID. Tranpsparent, translucent, or limpid.

Pel'ta. See targets. A flat shield without any elevated rim, as in the genus Peltidia.

PEL'TATE, *pelta'tus.* Having the petiole attached to the under side of the leaf. In all cases of leaves and flat stigmas, when the petiole or style is attached to the disk instead of the margin, they are peltate; as the leaf of the nasturtion and the stigma of the yellow water-lily.

PEN'DANT. Hanging down.

PEN'DULOUS. When the whole of the part droops, or hangs down.

PEN'CIL-FORM, *pencil'lifor'mis.* Shaped like a painter's pencil, or little round paint brush.

Pennifor'mis. When the ribs are disposed as in a pinnated leaf, but confluent or uniting at the point.

PENTAGYN'IA. (*Penta*, five, *gune*, female.) Five styles.

PENTAN'DRIA. (*Penta*, five, *aner*, male.) Five stamens.

Pentan'drous. Belonging to, or varying into the class *pentandria.*

Penta, (five,) is used in composition; as *pentacoccus*, 5-seeded; *pentage-*

nal, 5-cornered; *pentapetalous*, 5-petalled; *pentapterygia*, 5-winged; *pentaphyllous*, 5-leaved, &c.

Peregri'nus. Foreign, strange, wandering.

PEREN'NIAL, *perennis*. Continuing more than two years.

PER'FECT FLOWER. Having both stamens and pistils.

PERFO'LIATE, *perfoliatus*. Perforating a leaf. Having the stem running through the leaf. But the leaf is not formed by the union of opposite bases, as in the *boneset*, (eupatorium;) for in this case the leaves are connate; but they are often called perfoliate. It is applied to antennae of insects when the main thread passes through the joints.

PER'FORATE, Per'forated, *perfora'tus*. Having holes, or transparent spots, as if pricked through. Punctate may differ in presenting spots like points, which are not holes. Pertuse perhaps is synonymous with perforated.

PERIANTH, *perian'thum*. (*Peri*, about, *anthos*, flower.) That kind of calyx, which is immediately adjoining the corol, stamens and pistil, or to such of these organs as are present. It is *superior*, when it grows on the germ; it is *inferior*, when it grows out from below the germ.

PER'ICARP, *pericarpium*. (*Peri*, about. *karpos*, fruit.) Seed-case. Any bag, shell, pod, pulp, berry or other substance, enclosing the seed. It is (in some cases, as in the peach,) divided into: *epicarp*, the external tegument; *sarcocarp*, the fleshy eatable part; *endocarp*, (putamen,) the true shell; and the *real seed*, usually called the meat; as peach meat, almond meat, walnut meat.

PER'ICHETH, *perichæ'tium*. (*Peri*, about, *chaite*, crest.) An involucre surrounding the base of the peduncle of mosses, among the leafets, but differing from them in form. See calyptre.

Peridio'a. The membrane by which the sporules are immediately covered.

Peri'dium. A round membranous dry case, enclosing the seeds in some angiocarp funguses; it is also a kind of sporidia; sporidiolum is its diminutive.

Perigo'nium, perigone. Sometimes substituted for perianth if the floral envelopes are of such a nature that it is not obvious whether they consist of both calyx and corol, or of calyx only, they receive the name of perianthum or periogonum.

PERIGY'NOUS, *perigonous*. Growing upon some body that surrounds the ovarium; as the calyx is perigynous, as well as the corols and stamens it supports, when it adheres to the ovarium, (the germ.)

PER'ISPERM. A substitute for pericarp. Nuttall.

PERISPOR'IUM. Capsule. Nuttall uses it to express a chaffy covering to seed.

Peristom'ium. The fringe teeth or membrane, around the mouth of the capsule of mosses, under the lid.

Perithe'cium. A perianth-like organ surrounding the seed-cases of lichens, or capsule of mosses and fungi. Used to express the part which contains the reproductive organs of Sphaeria, and its co-adnates.

PERITRO'PAL, *peritropus*. Directed from the axis to the horizon.

PER'MANENT. Any part of a plant is permanent, which remains longer compared with other parts of the same plant, than is usual for similar parts in most plants. As the calyx of the quince remains on the end of the fruit, till it ripens. Persistent. Remaining.

PERO'NATE, (defence against cold.) Laid over with a woolly substance, ending in a sort of meal; as on the stipes of some fungi.

Persis'tens. Persistent. Not falling off; but remaining green or growing, until that which bears it is wholly matured. See permanent and ring.

PER'SONATE, *persona'tus.* See labiate. Muffled lipped flower.

PERTU'SE, *pertu'sus.* Punched. See perforated.

PE'TAL, *pet'alum.* The colored leaf or leaves of the corol. The petal of a monopetalous corol is divided into the *tube* and *limb*. Each petal of a polypetalous corol is divided into the claw and lamina.

PE'TAL-FORM, *petalifor'mis.* Resembling a petal in shape, or texture.

Petali'nus. Attached to, or being part of, a petal.

PE'TALOID, *petaloi'des.* Having organs or parts resembling petals.

PE'TIOLE, *petio'lus.* The footstalk of a leaf, or a part which connects the lamina with the stem. Leaves which have no footstems are *sessile*.

PETIOLA'TE, pe'tioled, *petiola'tus.* Having a petiole.

Petiolu'lus. A partial petiole which connects the leafet to the main petiole; as the butternut.

PHENOG'AMOUS, (of *phaino*, to shew.) Having the stamens and pistils sufficiently apparent for classification. Apdlied to all plants not included in the class cryptogamia.

Phœnic'eus. Purple, dark-red. Ancient purple.

Phycom'ater. The gelatine in which the sporules of byssus first vegetate.

PHYTOL'OGY. (*Phute*, a plant, *logos*, a treatise or discourse.) The science which treats of the principles of vegetables. It is nearly synonymous with the *physiology* of *vegetables*.

Pi'ceus, Blueish-black, resembling dark pitch.

Pi'leus. The hat of a fungus. The top and most spreading part. It may be without stype, and thus constitute the whole ascending part. It always contains the sporules.

Palid'ia. See puffs. Orbicular, hemispherical shields, the outsides of which change to powder in Calycium.

PILIF'EROUS. Bearing hairs.

PIL'LAR. Columella. The column of a univalve shell.

PIL'OSE, *pilo'sus.* Hairy. Having distinct straightish hairs. Pappus is pilose, when each hair has lateral branches. See aigrette.

Pil'us. A hair. An excretory duct of a bristly form, leading off a fluid. See sting.

PIM'PLED. See papulose. Covered with minute tubercles or excrescences, of uneven size, and rather soft.

PIN'NATE, *pinnatus, pinna.* A wing. Winged, or feathered. Leaves are pinnate, when distinct leafets are arranged along opposite sides of a simple petiole. See bipinnate and tripinnate.

PINNAT'IFID, *pinnatif'idus.* Cut-winged. Leaves are pinnatifid, when, instead of leafets as in pinnate leaves, segments or divisions of a leaf are along opposite sides of the midrib. Pinnate are compound, but pinnatifid are simple: because the divisions never reach the midrib. When pinnatifid leafets are on a pinnate leaf, it is called *pinnate-pinnatifid*.

PIS'TILLATE FLOW'ER. Having pistils only without stamens; as the flower of the fertile cucumber.

PIS'TIL, *pistil'lum.* The central organ of most flowers. It generally consists of the germen, style and stigma. But the style is frequently wanting; then the stigma is seated on the germ, or sessile. The stig-

ma receives pollen from the anther, and in some manner not yet discovered, fertilizes the germ.

Pistillif'erous. See pistillate. Bearing pistils.

PITH. The spongy substance in the centre of the stems and roots of most plants. A cylindrical or angular column of cellular tissue arising at the neck of the stem and terminating at the leaf buds. See Midulla. This is encased in a medullary sheath.

PITS, (syphellæ.) That kind of receptacle of lichens, which consists of open, cup-like, naked, white or yellow little spots, on the under side of the frond, which is generally downy. They are at first immersed, globose, minute dots, which at length burst with irregular margins, and discharge a powder.

Placen'ta. Fleshy receptacle or mass, round, and concave, both on the upper and lower surface. It is the organ or body to which the seed is attached by its hilum by means of a funicule. It is always within a pericarp when the seed has a perieearpal covering.

PLACENTA'TION. The disposition of the cotyledons in the germination of the seeds.

PLAIT'ED. Folded somewhat like a fan, when nearly full spread. In foliation it is more closely folded.

PLA'NO-CON'VEX. Convex or roundish on one side and flat the other.

PLANT. Any substance growing from seed. As tree, grass, puff-ball, mould, moss, frog-spittle.

Plica'tus. See plaited. Folded like a fan.

PLUMO'SE, *pap'pus*, Feather-like down. When a hair has other hairs arranged on opposite sides of it. Applied to a mineral having fibres diverging from a line or kind of midrib, as plumose mica.

Plu'mula, or gemmula, is the nascent *ascending* axis. That part which develops downwards is called the *descending* axis or root. That upwards is called the *ascending* axis or stem. And the part from which these two axis start, is called the *collect* or neck.

POC'ULIFORM (poculiformis;) cup-shaped with a hemispherical base and an upright limb.

POD. That kind of pericarp which is composed of two valves with the seeds attached to one or both sutures, or a longitudinal partition at the edges immediately adjoining the sutures. The pod is either a *legume* or *silique.*

Pode'tia. The peduncles of lichens or the stalk-like elongations of the *thallus*, which support the fructification in Cenomyce.

POINT'LETTED (apiculatus;) terminating abruptly in a little point.

POIN'TAL. See pistil. Central organs of a flower.

POIS'ERS. Globules on slender stems under the wings of some dipterous insects.

POI'SONOUS VEG'ETABLES. Persons of all descriptions have frequent occasion to make some use of plants, when they are not in a situation minutely to investigate their nature and qualities.

The following rules for extemporaneous examinations may be of some use.

GENERAL RULES FOR AVOIDING POISONS.

Plants not poisonous.

1. Plants with a *glume* calyx, never poisonous. As Wheat, Indian corn, Foxtail grass, Sedge-grass, Oats.

2. Plants whose stamens *stand on the calyx*, never poisonous. As Currant, Apple, Peach, Strawberry, Thorn.

3. Plants with *cruciform* flowers, rarely if ever poisonous. As Mustard, Cabbage, Water-cress, Turnip.

4. Plants with *papilionaceous* flowers, rarely if ever poisonous. As Pea, Bean, Locust tree, Wild indigo, Clover.

5. Plants with *labiate* corols, bearing seeds without pericarps, never poisonous. As Catmint, Hyssop, Mint, Mother-wort, Marjoram.

6. Plants with *compound* flowers, rarely poisonous. As Sunflower, Dandelion, Lettuce, Burdock.

7. Plants bearing *strobiles* are never poisonous. As pines, cedars, &c.

8. *Monadelphous*, or *columniferous* plants, are never poisonous. As hollyhock, mallows, geraniums, &c.

Poisonous Plants.

1. Plants with 5 stamens and one pistil, with a dull-colored *livid* corol, and of a nauseous sickly smell, always poisonous. As Tobacco, Thorn-apple, Henbane, Nightshade. The degree of poison is diminished where the flower is brighter coloured and the smell is less nauseous. As potatoe is less poisonous, though of the same genus with nightshade.

2. *Umbelliferous plants* of the aquatic kind, and of a nauseous scent, are always poisonous. As Water-hemlock, Cow-parsley. But if the smell be pleasant, and they grow in dry land, they are not poisonous. As Fennel, Dill, Coriander, Sweet-cicily.

3. Plants with *labiate* corols and seed in capsules, frequently poisonous. As Snapdragon, Foxglove.

4. Plants from which issues a *milky juice* on being broken, are poisonous, unless they bear compound flowers. As Milkweed, Dogbane, Euphorbium.

5. Plants having any *appendage* to the calyx or corol, and twelve or more stamens, generally poisonous. As Columbine, Crowfoot, Nasturtion, Monkshood, Hellebore.

Most general Rule.

Plants with few stamens, not frequently poisonous, unless they are in umbels; but if the number be twelve or more, and the smell nauseous, heavy and sickly, the plants are generally poisonous.

Note. Many plants possess some degree of the narcotic principle, which are still by no means hurtful. The roots of some are wholesome, while the herbage is poisonous; as parsnips, potatoes, &c.

POLLEN. Masses of minute molecules of a fertilizing farina-like substance, produced in the anthers of stamens. When the masses come in contact with moist stigmas, they explode and shed a fine fertilizing aroma-like smoke or vapor, upon the stigmas. On being viewed through a magnifier, they are found of various forms. In the sunflower, it is a prickly ball; in geranium, perforated; in comfrey, double; in mallows, a toothed wheel; in violet, angular; in daffodil, kidney-form, &c.

POLLIN'IA. Rolls or masses of pollen, not included in cells of anthers of the common form and texture; as of the orchis, asclepias, &c.

POLLINIF'EROUS. Bearing pollen.

POLYADEL'PHIA. (*Polus*, many; *adelphos*, brother.) See omitted classes; bottom of page 20.

POLYADEL'PHOUS. Belonging to, or varying into, the class polyadelphia.

POLYAN'DRIA. (*Polus*, many; *aner*, male.) The Linnean class, with over ten stamens to each flower, growing on the receptacle.

POLYAN'DROUS. Belonging to, or varying into, the class *polyandria*.

POLYCARPOUS, (sychnocarpous;) having the power of bearing fruit many times without perishing; as perennial and woody.

POLYCOTYLED'ONOUS. Plants with more than two cotyledons. See cotyledon.

POLYGA'MIA. (*Polus*, many; *gamos*, marriage.) Many unions. The name of the twenty-third class as established by Linneus. It comprises all plants, which have some perfect flowers, and others which are staminate and pistillate, or both kinds. This class is divided into three orders. 1. *Monœcia*, having perfect flowers and either staminate or pistillate ones or both on the same plants. 2. *Diœcia*, having perfect flowers on some plants, and either staminate or pistillate flowers on others, of the same species. 3. *Triœcia*, having perfect flowers on some plants, staminate on others, and pistillate on others of the same species. This class, like the 18th, is abolished by Persoon and others, and the plants under it distributed among the other classes. The fig comes most perfectly under this order.

POLYG'AMOUS. Varying into, or inclining to, the class *polygamia*.

POLY (of *polus*, many) is used in composition as in *polygonus*, many-cornered, *polyprenus*, many nuts, *polysperma*, many seeds, *polystachis*, many spikes.

POLYGYN'IA. (*Polus*, many; *gune*, female.) The order of Linnean classes, which has ten or more styles (or stigmas if styles are wanting) to each flower.

POLYMOR'PHOUS. Presenting various form and appearances.

POLYPET'ALOUS. Many-petalled. If the corol consists of more than one petal, it is polypetalous.

POLYPHYL'LOUS. Many-leaved. A calyx of more than one distinct piece is polyphyllous.

POME, *po'mum*. A pulpy pericarp without valves, which contains within it a capsule. See *berry*, and note the difference. Apples, quinces, &c. are pomes.

Pomif'erous. Bearing pomes, or apple-like fruit. As pears and plums.

PO'ROUS, *poro'sus*. Full of holes, cellules, or tubular openings.

Porrec'tus. Lengthened out, stretched, straitened.

POSTERIOR SLOPE. See slopes.

POWDERY (*pulverulentus*;) covered with fine bloom or powdery matter.

Præ'cox. Rare-ripe. Coming to maturity early in the season. Flowering before leafing. A forward child, not sound.

PRÆMOR'SE, *Præmor'sus*. Bitten off. Terminating bluntly, as if bitten off. As the root of the pedate or birdfoot violet.

Pras'inus. Green, like a leek.

Praten'sis. Growing naturally in meadow land.

PREHEN'SILE. The tail of an animal, or other limb, formed for coiling around other bodies for the purpose of holding on by them.

PRICK'LE, aculeus. A sharp process fixed to the bark only, not to the wood; as on the raspberry, rose, barberry; they are rigid opaque, coni-

cal processes, formed of masses of cellular tissue, and terminating in an acute point. They may be, not improperly, considered as very compound indurated hairs. They have no connection with the woody fibre.

Prismat'ic, *prismat'icus*. Linear, with several flattish sides. A cylinder with flat sides.

Probos'cides. Proboscis-like. Resembling a projecting horn.

Proboscis. An elongated nose or snout. It is a tubular process, whether a tubular continuation of the snout, as of the elephant; or a tubular sucker, as of the musquetoe; it is always adapted to the structure of the animal in furnishing itself with food.

Procum'bent, *procum'bens*. Lying on the ground.

Prolif'erous, *pro'lifer*. Putting forth branches or flowers from the centre of the top of a preceding one. Two-story growth.

Proligera lamina. A distinct body containing the sporules, separating from the apothecia, often very convex and variable in form, and mostly dissolving into a gelatinous mass.

Prom'inent, *pro'minens*. Standing out more or less beyond what is usual in other plants.

Pro'nus-dis'cus. The under side, or back of a leaf, upwards.

Prop. See fulcrum. Tendrils and other climbers.

Propaga'tion. See flower. Extending plants by seeds, roots, &c.

Propa'go. See gemma.io, budding.

Propa'gula. See efflorescence.

Propen'dens. Apparently on the point of falling.

Prop'er, *prop'erus*. See partial. Part of a whole.

Prosenchyma, is confined to the bark and wood, in which it is mixed with woody fibre. Cellular tissue, the vesicles of which are elongated and overlie each other at the extremities, is called *prosenchyma*.

Pros'trate, *prostra'tus*. See *procumbent* and *humifusc*. Lying on the ground.

Proteran'thous, where the leaves appear before the flowers.

Protru'ded. See exsert. Projecting out as stamens, &c.

Protru'sile. Capable of being protruded. It is applied to the heads of animals, which may be thrust out or forward, as that of the tortoise.

Prox'imus. Very near. Element next in quality.

Prui'na. The mealiness or hoariness on plums, peaches, &c.

Pruinose. Covered with a frost-like meal.

Pru'rines. Hairs which excite itching.

Pseu'do. When prefixed to a word, it implies obsolete or false.

Pseudo-morphous. False faced. It is applied to crystals which are formed in, or upon, other crystals and take their form.

As the crystals of liasoid in Manlius, N. Y. exhibit the form of the crystals of muriate of soda, (table salt,) such as are daily seen at the evaporating salt works. Same in red sand of Salina.

Pubes'cent, *pubes'cens*. Hairy, having hairs, wool, down, glandular hairs, &c. Any kind of hairiness.

Puffs, (pilidia.) That kind of receptacle of lichens, which consists of little round bordered knobs, whose disk finally turns to powder. It is at first covered with a membrane and often clothed with a fine grey hoariness. These receptacles are elongated below into a stalk fixed to the crust, but totally different from it.

PUL'LUS. Dull brownish colour.

PULP'Y *pulpo'sus*. Filled with a tenacious kind of parenchyma. Thick and succulent or spongy.

PULVINATUS. Cushion-like. Applied to the pileus of a fungus, which is thick and corky or spongy.

Pulvi'nuli, (garden beds.) Cushions. Excrescences found on the surface of the fronds of some lichens, sometimes clustered or branched; sometimes rising from the thallus, and often resembling minute trees; as in Parmelia glomulifera.

PU'*milus*. Small, low, inferior stature.

PUNC'TATE. Dotted or sprinkled with coloured, generally diaphanous, specks. See perforated, St. John's wort.

PUNCTIC'ULATE. Having minute punctures, diaphanous dots, or specks.

P*unic'eus*. Scarlet-coloured, bright red.

PU'PA. Chrysalis. nymph, amelia. The quiescent state of an insect after passing from the larva state and before it becomes a perfect insect.

P*urpuras'cens*, (*purpurens.*) Inclining to a purple colour, becoming purple.

P*usil'lus*. Low, small, diminutive, compared with others.

PUT'AMEN. Nutt-shell. See nucleus.

P*yramida'lis*. Conic, pyramid-form, converging above.

P*yrifor'mis*. Pear-shaped. Ovate with a neck.

PYR'TIFEROUS. Bearing iron pyrites. Containing sulphuret of iron,

Q.

Quadratus, (four.) Used in composition as *quadrangularis*, 4-cornered; *quadricapsularis*, 4-capsuled; *quadridentatus*, 4-toothed; *quadrifarius*, facing 4 ways, *quadrifidus*, 4-cleft; *quadriflorus*, 4-flowered; *quadrijugus*, 4-paired; *quadrilobus*, 4-lobed; *quadrilocularis*, 4-celled; *quadrinervis*, 4-nerved; *quadripartitus*, 4-parted; *quadrivalvis*, 4-valved; *quadrivascularis*, with 4 cup-form cells; *quaternus*, 4 in a whorl.

QUAL'ITIES OF PLANTS. Richard says that plants of the same taste and odour, are generally possessed of similar qualities. Also that the smell and taste are always the same. He divides the odours of plants into, 1. *Fragrant.* 2. *Aromatic.* 3. *Ambrosiac* (resembling amber.) 4. *Alliaceous* (resembling garlic.) 5, *Fetid* (as asafœtida, &c.) 6. *Nauseous* (causing the stomach to heave.) As the fragrant, the aromatic and ambrosiac, are always free from all hurtful qualities, and as the fetid and nauseous are generally poisonous: it seems that mankind have in some measure an instinctive principle by which their food is to be selected.

Quinus, five. Used in composition, as *quinus*, 5 in a whorl; *quinatus*, 5-leaved petiole; *quinquangularis*; 5-cornered; *quinquecapsularis*, 5-capsuled; *quinquecostatus*, 5-nerved, or 5-ribbed; *quinquefidus*, 5 cleft; *quinqueflorus*, 5-flowered; *quinquejugus*, 5-paired; *quinquelobus*, 5-lobed; *quinquelocularis*, 5-celled; *quinquenervis*, 5-nerved; *quinquepartitus*, 5-parted; *quinquevalvis*, 5-valved; *quinquevascularis*, 5 cupform cells.

QUINCUNX, *quincuncialis*. When the pieces are five in number of which two are exterior, and the fifth covers the interior with one margin and has its other margin covered by the exterior; as in rosa.

Quintin. From some recent observations it appears that the nucleus

consists of three coats; the outer called the *tercine*, the next the *quartine*, and the most interior, the *quintine*.

R.

RACE'ME, *race'mus*. (*Rax*, a bunch of grapes.) That kind of inflorescence, wherein the florets have undivided pedicels arranged along the sides of a general peduncle. As currants.

RAC'HIS, (*Rachis*, the back-bone.) The filiform receptacle connecting the florets in a spike. As in wheat-heads. It is sometimes put for the midrib in ferns.

RA'DIATE, *radia'tus*. The spreading florets around the margin of a compound flower.

RADIATED ANIMALS. Those whose sentient principle resides in a medulary globule, spheroid, or ring, with radiating branches; as the polypus which inhabits corals, corks, the tape-worm, &c.

RAD'ICAL, *radica'lis*. Proceeding from the root without the intervention of a stalk. As the leaves of plantain.

Ra'dicans. See rooting. Roots or rootlets proceeding from stems, leaves, &c.

RAD'ICLE, *radic'ula*. The little fibrous branches proceeding from the main root, which imbibe the moisture and other nourishment for the plant.

Ramen'tum. Applied to the loose scales frequently in the angles of petioles, &c. called in English, *raments*. They are thin brown foliaceous scales, appearing sometimes in great abundance upon young shoots of the leaves of ferns.

RA'MEOUS, *rameus*, *rameal'is*;) of or belonging to the branches.

RAMENTA'CEOUS, (*ramentaceus*;) covered with weak shrivelled brown, scale-like processes.

Ramo'sus, RAMO'SE. Branching. *Ramossis'simus*. Very branching.

Raph'ides, are among the tissue and particularly in the intercellular passages; in such cases, a vascular connexion is maintained between the base of the ovulum and the base of the nucleus, by means of a bundle of vessels called a raphe; the hilum represents the base of the seed; the apex is determined by the point where the vessels or tissue of the integument concentrate.

Rarifol'ius. Leaves few and distant. *Rariflo'rus*. Flowers few and distant.

RAY. The outer margin or circumference of a compound flower. It is also applied to the peduncles and outer florets of an umbel; particularly when they differ in any respect from the inner, or disk, florets. Also to the bony spines of the fins and gill-membranes of fish.

RECEP'TACLE, *recepta'culum*. The base by which the other parts of the fructification are connected and supported; being at the end of the peduncle. Perhaps this part may hereafter be noticed on account of the change, it in some way produces on the vegetable secretions. Dr. Smith mentions the wholesomeness of some fruits, while the other parts of the plant are poisonous. See page 102. Every one has noticed the delicate flavour of the pond-lily, (Nymphea odorata,) while all back of the receptacle is extremely different. Numerous similar instances may be cited to prove the very great change in some way effected by the receptacle.

RE'CLINED, *reclini'tus*. Bent down so that the apex of a leaf, &c. is lower than the base. Applied to the stem it implies that it is bowed towards the earth.

RECUR'VED, *recurva'tus*. Curved downwards.

REFLEX'ED, *reflexus*, *recurvus*, *retroflexus*, *retrocurvous*, *refractus*. Bent back, nearly or quite to touch the stem or peduncle.

REFRAC'TED, *refrac'tus*. Bent back in an angular form, so as to appear as if broken.

Reg'num vegetab'ile. The *vegetable kingdom* as taken into view with the *animal* and *mineral*.

REJECTED CLASSES. Linneus distributed all plants into 24 artificial classes; but his eleventh, eighteenth and twenty-third classes, are considered by many botanists, as very inconstant in their character. The *rejected classes* being retained by Muhlenberg, Bigelow, and some other distinguished botanists, they are defined here.

Dodecandria, the 11th class of Linneus.

It includes those plants whose flowers are perfect, and contain from twelve to nineteen stamens to each.

Polyadelphia, the 18th class of Linneus.

It includes those plants whose flowers are perfect, and contain stamens united by their filaments in more than two parcels.

Polygamia, the 23d class of Linneus.

It includes those plants whose flowers are perfect and staminate or pistillate on the same plant, or on different individuals of the same species.

REJECTED ORDERS. *Monogamia*, the 6th order of Linneus in the class Syngenesia.

It includes those plants whose flowers are perfect and not compound, and contain stamens with united anthers; as the lobelia and touch-me-not.

Monoecia, *Dioecia*, and *Trioecia*, are the three orders of the rejected class Polygamia. The order *monoecia* includes those plants, which comprise all that is necessary for the character of the class in one plant—*dioecia*, in two plants—*trioecia*, in three plants.

The orders between *decagynia* and *polygania*, also beyond *monadelphia*, are unnecessary. Their definitions are implied under their associate orders.

REL'ATIVE PROPOR'TIONS. When dimensions are expressed indefinitely, as long, very long, short, large, &c. such expressions are to be understood as long, &c. compared with the proportion which similar parts usually bear to other parts, in plants generally. But when such terms are used for specific names, the proportion between the parts of species of the same genus, which were known when the names were given, are compared. Thus *Kalmia latifolia* has a broader leaf than *Kalmia angustifolia*: but it has a narrow leaf compared with any species of *trillium*.

REMO'TE, *remo'tus*. See relative proportion.

RE'NI-FORM. See kidney-form.

REPAND', *repan'dus*. Having small sinuses, separated by teeth in the form of segments of small circles. Spread.

Re'pens. See creeping.

REPLACE'MENT. Applied to a crystal when its angles or edges are wanting, and are supplied by a plane face or other angles.

Rep'licate (*replicative*) when the upper part is curved back and applid to the lower.

Rep'tans. See creeping and runner.

Resupina'tus. Upside down, by a twisting of the stem.

Retic'ulate. Netted. Having veins crossing each other like network.

Re'ti-form. Net form, net-like.

Retiner'vis, when the veins are reticulated, or reticulate-like.

Retract'ile. When the head, or other organ, may be drawn back, as the drawing in of the head of a tortoise.

Re'troflex, *retroflex'us.* Bending in various directions.

Retrofrac'tus. See refracted. Bent suddenly back.

Retror'so-dent'atus. See runcinate. Teeth bent back.

Retror'sum. Turned backward.

Reto'se, *retusus.* Ending in a sinus generally hollowed but very little. See emarginate.

Rever'sed. Bent back towards the base.

Rev'olute, *revolu'tus.* Rolled outwards. A term in foliation; applied to leaves whose opposite margins are rolled outwards and continued rolling till the two rolls meet on the back of the midrib and parallel to it. It is the reverse of *involute.*

Rhizocar'pous. Those plants whose roots endure many years, but whose stems perish annually.

Rhizo'ma. Rootstalk. A kind of rooting stem, which is partly or wholly under ground, nearly horizontal, and sends up new plants yearly; as Malaxis.

Rhizosper'ma. Fruit on the root of some ferns.

Rhom'bic, *rhom'beus.* See deltoid. Diamond-form.

Rhomboi'deus. Diamond-spot like; oval and a little angular, against the middle, at the edges.

Rib'bed. When the midrib sends off lateral ribs nearly straight to the margin. It is sometimes put for *nerved,* which see.

Rig'id, *rig'idus.* Stiff, inflexible, or not pliable: or, if attempted to be bent, will rather break.

Rimo'se, *rimo'sus.* Chinked, abounding in cracks, as the outer surface of the pitch-pine tree.

Ring. The band around the capsules of ferns, which is elastic. See exanulatus, and annulatus.

It is also the thin membrane attached to the stem of a fungus. When young it is attached to the pileus. It is *erect* when the upper edge is not fastened; *inverse,* when the lower edge is not fastened; *sessile,* when is attached to one side only; *mobile,* when it may be pushed up and down: *persistent,* when it is as durable as the pileus; *fugacious,* when it disappears at the opening of the fungus.

Rin'gent, *rin'gens.* See labiate. Grinning. Didynamous.

Root, *radix.* The descending part of a vegetable, which enters the earth. Roots are *annual, biennial,* or *perennial.* They are branching, fibrous, creeping, spindle-form, tuberous, bulbous, or granulated. See each term in its place.

Root'ing. Bending or extending to the earth and striking root.

Root'let. A fibre of a root.

Rope-form. Funicular, resembling cords in general structure.

Ro'ridus. Humid. Appearing as if covered with dew; or with transparent elevations of the parenchyma.

Rosa'ceous. A corol formed of roundish spreading petals, without claws, or with extremely short ones.

Ros'tel, *rostel'lum.* That pointed part, which tends downwards at the first germination of the seed. See corcle.

Root'stock, (rhizoma.) A prostrate, thickened, rooting stem, which yearly produces young branches or plants; as Malaxis.

Rostra'tus. See beaked. Having a bill or beak.

Ro'tate, *rota'tus.* See wheel-form. Border and scarcely a tube.

Rotun'dus. Round. Without angles. Nearly round.

Rough. Covered with dots, which are harsh to the touch, but not apparent to the naked eye. Clothed with hairs, the lower joints of which resemble little bulbs; and the upper ones short, rigid bristles.

Rubigino'sus. Rust-colored.

Rudera'lis. Growing among rubbish about buildings, &c.

Ru'fous. Reddish yellow.

Rug'ged. Covered with invisible dots which are harsh to the touch. See rough.

Rugo'se. Wrinkled. Veins more contracted than the disk, so that the intermediate parenchyma rises up between them.

Ru'minated, *ruminatus.* When a hard body is pierced in various directions by narrow cavities filled with dry cellular matter.

Run'cinate. Pinnatifid, with the divisions pointing backwards; as the dandelion.

Run'ner. A shoot producing roots and leaves at the end only, and from that place giving rise to another plant; as strawberry.

Rupes'tris. Growing naturally among rocks. Rocky.

Ru'tilus. Shining, bright, glossy, not opake and dull-colored.

S.

Sac'cate. Furnished with a little bag. Bag-like.

Sag'ittate, *sagitta'tus.* See arrow-form.

Salif'erous. Salt-bearing. Applied to a secondary rock in which salt springs are found.

Sal'ver-form. A monopetalous corol with a flat spreading limb proceeding from the top of a tube.

Sam'ara. A winged pericarp not opening by valves; as the maple.

Sam'aroid. Resembling a samara, or winged capsule.

Sap. The watery fluid contained in the tubes and cellules of vegetables, which furnishes the means of, or is itself, the support of their growth and life, and their preservation from decay. That part of the sap which supplies materials for the growth, foliage and fructification, evidently descends by way of the *camb.* But that which fills the interstices among the woody fibres, and serves to preserve them from decay, is probably raised by capillary attraction. Freezing and thawing in some way or other suspends for a day or two the effect of capillary attraction. It then descends by its natural gravity; at which season only can the sap be obtained from the sugar maple. That it descends is evident from the fact, that no sap is obtained from below the incision except a few drops at the first moment after it is made. That the sap

descends from the woody fibres appears from inspection. That this sap serves to preserve the wood appears from the rapid decay of the wood in the sugar maple directly above the incision to the whole extent of the bole; while the incision produces but little effect below it. And the herbage of the tree with the outer layers of wood continue as flourishing after the tree has been drained of its sap annually for half a century, as its neighbors, which have never lost any sap.

Sapin'dus. Having some kind of taste. Not insipid.

Sa'por. Having a relish, pleasant, any taste. Colour sometimes indicates the taste. White berries are generally sweet: red sour; blue, sweet and sour: black insipid and poisonous.—Willdenow. But certainly our spicy wintergreen, (gaultheria,) partridge-berry, (mitchella,) are exceptions to Willdenow's rules.

SAR'MENTOSE, *sarmento'sus.* A running shoot which strikes root at the knots or joints only. Generally applied to shrubs. See runner.

SAUC'ER-FORM. Shaped like a common tea-saucer or patella.

Sca'ber, Sca'britics, scabrous. See rough. Roughness.

SCALES. Thin flat membranous processes, formed of cellular tissue springing from the cuticle. They may be considered as flattened hairs.

SCAL'LOPED. See repand.

SCALY. Covered more or less with scaly appendages, as fern roots; or consisting of substances, in some measure resembling coarse fish-scales; as the scales of lily roots.

Scan'dens. See climbing.

SCAN'SORAL. Having feet formed for climbing—two toes forward and two backward.

SCAPE, *sca'pus.* Radicle peduncle. Flower stem from the root.

SCAP'ULARS. The feathers, which descend down each side of the back.

SCA'RIOUS, *scario'sus.* Dry and membranous, generally transparent.

SCAT'TERED. Standing without any regular order; that is, neither opposite, alternate, nor in any definable order.

SCHISMATOP'TERIDES. Dehiscent ferns. One of the new orders of ferns. It is adopted by Pursh, Torrey, &c. Osmunda, lygodium and schizæa are placed here.

SCIMITAR-FORM. See acinaciform. Flat-sided, curved edgwise; inner edge concave, thick; outer edge convex, thin.

SC'ION. Shoots proceeding laterally from the roots or bulb of a root.

SCRAG. Back of a bird's neck.

SCROBIC'ULATE, *scrobiculatus.* Deep round pits on the receptacle gives it this name.

Scutel'lae. See shield. A shield with an elevated rim, formed by the thallus. Orbilla is the scutellum of Usnea.

SCUTEL'LIFORM. Form of the knee-pan, or a saucer.

SCYM'ITAR-FORM. See acinaciform. Cutlass-form. One edged sword.

Scyph'ifer, Scyph'us. Cup-bearing. See cyathiform. A cup-like dilation of the Podetium, bearing shields on its margin.

SEC'TION. The genera of some orders and the species of some genera are divided into sections. Sometimes disregarded, and the whole order read over.

Secun'dus. Turned to one side. One-sided, one-ranked.

SEED. The matured part of fructification, destined for the reproduc-

tion of the species. It contains the rudiment of a new plant and is analogous to the egg of animals. It consists of the corcle, cotyledons, tegument and hilum. The seed is the *ovulum* arrived at maturity.

SEG'MENT. The parts into which a calyx, corol, leaf, &c. is divided or cut.

SEGREGA'TA, polygamia. The fifth order of class Syngenesia; in which the florets are separated by distinct perianths.

Semiamplexicau'lis. Half clasping the stem, with sessile leaves.

SEMICOLUM'NAR. See semiterete. Tapering half cylinder.

Semicylindra'ceus. Half-cylindric. In form of a round ruler split lengthwise, as onion leaves.

Semi-in'ferus. Half-inferior. When the calyx grows on the side of the germ, so that it is neither superior nor inferior.

SEMIORBIC'ULAR, *semiorbicula'tus.* In form of a half circle.

Semisagitta'tus. Half arrow-form. That is, one side wanting; as in the *vicia pusilla.*

SEMITERE'TE, *semiter'es.* Half terete. See terete.

Sempervi'rens. Living through the winter and retaining the leaves.

Se'nus. Six-fold. Growing in sixes. 6 leaves in each.

Sen'silis, SEN'SITIVE. Moving on being touched. See irritability.

Sen'sim. Gradually, by little and little. Applied to a form, &c. which arises gradually from some other form.

SEN'TIENT PRIN'CIPLE. The knowing principle. That faculty by which animals are enabled to take notice of external objects.

SEP'ALS. The divisions of a calyx or segments.

Seria'lis, in rows arranged in *series;* biserialis in two rows: triserialis in three rows; bifariam means in two rows or faces; trifariam in three rows.

Seric'eus. Silky. Covered with soft close-pressed hairs.

Seroti'nus. Coming to maturity late in the season. Applied to willows, and to some other plants, it implies, that the time of flowering is after the leafing.

SER'PENTINE MAR'GIN. See repand. Waving edges.

SER'RATE, *serra'tus.* (*Serra,* a saw.) Having sharp notches, appearing as if cut, about the edge or margin, pointing towards the apex.

SER'RULATE, *serrula'tus.* When a serrate leaf has the teeth serrate again. It is also applied to any serratures, which are very fine.

Ses'qui. This term prefixed to the Latin name of a measure, shows that such measure exceeds its due length by one half; thus sesqui-pedalis means a foot and a half.

Sesquial'ter. When a large fertile floret is accompanied by a small abortive one.

SES'SILE. Sitting down. When a leaf, flower, seed-down, pileus of a fungus, receptacle of a lichen, &c. are destitute of a petiole, peduncle, stipe, &c.

Seta'ceous, Se'ta, a bristle, bristle-form. Applied to antennae.

Seto'sus, SETO'SE, *Setig'erous.* Bearing bristles. Bristly. Having the surface set with bristles, or stiff strait hairs.

Sex, Six. Used in composition; as *sexangularis,* 6-angled, *sexfidus,* 6-cleft, *sexflorus,* 6-flowered, *sexjugas,* 6-paired, *sexlocularis,* 6-celled, *sexvalvous,* 6-valved.

Sex'us. Sex. When Linnæus first adopted the stamens and pistils as

the organs of classification, he addressed his arguments to physicians, who were conversant with animal anatomy. He therefore took advantage of the analogy between animals and vegetables in the reproduction of their kind, in order to illustrate his theory. He called the stamens males, and the pistils females, &c. But nothing can be more ridiculous and disgusting than to keep up these references at this day.

Sharp. Tapering to a point. Acute differs from sharp, as it may apply to the tip of a leaf, which becomes broad immediately back of the point.

Sheath. The prolongation of a leaf down the stem, which it encloses; as in most culmiferous plants.

Sheath'ing (vaginans;) surrounding a stem or other body by the convolute base; this chiefly occurs in the petioles of grasses.

Shield, *scutel'lae.* That kind of receptacle of lichens, which is open, orbicular, saucer-like. The under side and border are of the substance and color of the frond. The disk is of a different color and substance from the border and frond, containing the seeds in extremely minute vertical cells. The shields are thick and tumid, when they are sessile: and membranous, when stalked or elevated. Very rarely they are perforated in the centre. Smith.

Shield-form. Shape resembling the ancient buckler, a broad-round, broad-oval, flat armor. See clypeate and peltate.

Shoot. Each tree and shrub sends forth annually a large shoot in the spring, called the *spring shoot;* and from the end of that a smaller one about the 24th of June, called St. John's shoot. There is always the appearance of a joint where the latter springs out, very perceptible after the whole shoot is matured.

Shrub. A small vegetable with a woody stem. See tree and frutex.

Shrub'by. Having woody stems or branches; bushy.

Sic'cus. Dry, neither humid nor succulent.

Sick'le-form. A very much curved, keel-like edge within.

Sides. Applied to shells means the right and left, when viewed from the front, (opening side) or back.

Sil'icle, *silic'ula.* A little silique, whose length and breadth are nearly equal.

SILICULO'SA. The first order of the class tetradynamia. It is distinguished by the length and breadth of the pod being nearly equal; as the pepper-grass. See siliquosa.

Silique, Silique-form. Shaped like a silique without its essential character.

SILIQUO'SA. The second order of the class tetradynamia. It is distinguished by the length of the pod greatly exceeding the breadth; as the mustard.

Silky, *sericeus.* Covered with very fine close-pressed hairs, silky to the touch.

Sim'ple, *sim'plex.* Undivided. Single, opposed to compound, aggregate, or branched; or scarcely divided or branched at all.

Simplicis'simus. Very simple.

Single. Only one. Also opposed to full-flowered.

Sinistror'sum. Twining from right to left, that is, contrary to the apparent motion of the sun; as the pole-bean.

SI'NUATE, *sinua'tus.* (*Sinus*, a bay.) Having rounded incisions. The margin hollowed out, resembling a bay; as the white oak leaf.

SIN'UATE-SER'RATE. Having serratures hollowed out; as the chesnut.

SI'NUS. A roundish incision into the edge of a leaf or other organ.

SIPHUN'CULUS. A canal, or succession of perforations, connecting the chambers of some univalve spiral shells.

SIT'TING. See sessile. Without a stem.

Si'tus. Situation; as opposite, alternate, &c.

SLASHED, *laciniatus.* Divided by deep, taper-pointed cuts.

SLEEK. See glabrous. Smooth may not be glabrous.

SLEEP OF PLANTS. The effect of night upon the external appearance of some plants; as the leaves of peas closing over the very young flowers.

SLOPES. The edges of an oblique bivalve shell. *Anterior slope*, is the edge in which the ligament is situated. *Posterior slope*, is the edge in which the beaks of the shell turn forward; being the edge opposite to that in which the ligament is situated.

Smarag'dinus. Grass-green. Greenish.

SMOOTH. Sometimes put for glabrous, but not synonymous with it. For glabrous means sleek or slippery; whereas smooth may be applied to fine chamois leather.

SOBOLIF'EROUS. Bearing shoots.

SOL'ID, *sol'idus.* Of an uniform substance not naturally partible; as the turnip. See coated and scaly.

SOLI'TARY, *solitarius.* Standing alone, or very distant from others of the same kind.

Solu'tus. Disengaged. Not adnate or growing together.

SOMEWHAT. Used as a diminutive; implying in some degree, not fully. Smith translates *sub* by *somewhat*, when combined with an adjective; as *subtrifi'dus*, somewhat three-cleft.

Somnus plantarum. See sleep of plants.

Sordi'de al'bicans. Dirty white.

So'rus and *Sore'dia.* See fruit-dots. Clusters of the fruit of ferns, heaps of powdery bodies lying upon any part of the surface of the thallus; the bodies of which the soredia are composed.

Spadi'ceus. Chesnut brown.

SPA'DIX. An elongated receptacle proceeding from a spathe, or resembling such in texture and appearance.

SPAN, *spithama, spithamoeus.* Seven inches or the space between the thumb and fore finger separated as widely as possible.

SPAN'GLES, *patel'lulæ.* Open and orbicular, like shields, but sessile and not formed of any part of the crust, from which they differ in color, being most usually black. The seeds are lodged beneath the membrane that covers their disk, as in the former, and the disk is surrounded by a *proper* border. Their seeds are observed to be naked in the cellular substance of the disk, not enclosed in cases. Disk sometimes concave or flat, oftener convex, and even globose without any apparent border when in an advanced state.

Spatha'ceus. A span high, or a span long.

SPA'THE. That kind of calyx, which first encloses the flower and after it expands is left at a distance below it. As daffodil, onion, Indian turnip.

SPA'THE-FORM. Resembling a spathe. A one-sided calyx.

SPAT'ULATE, *spatula'tus*, or *spathula'tus*. Oblong, diminishing into a long, narrow, linear base.

SPE'CIES. The lowest division of vegetables. There have been about 90,000 species described. De Lamarck and De Candolle make 4866 species of plants in France, including the cryptogamia. About one thousand phenogamous species and ferns have been examined by Prof. Ives in a wild state, within five miles of Yale College. About the same number has been examined about Troy, New York, by Dr. Wright and Prof. Hall. Hooker gives, in his British Flora of 1831, of flowering plants and ferns 1570 species for England and Scotland. In Eaton's Manual of Botany of North American plants for 1836, there are 4936 species of flowering plants and ferns described. But common cultivated exotics are included. The number of indiginous species of flowering plants and ferns, described in Eaton's Manual of 1836, as growing north of the Gulf of Mexico, between the Atlantic and Pacific, is 4540—Exotics, 396.

SPECIF'IC CHAR'ACTER. See diagnosis and descriptions.

SPECIF'IC NAME. In common use we apply this to what Linneus called the *trivial name*. The specific name he calls all those several descriptive words which express the essential difference or diagnosis.

SPHA'CELATE. Withering, becoming blackened.

SPHÆ'RULA. A globose peridium with a central opening through which sporidia are emitted, mixed with a gelatinous pulp.

SPHAGNO'SE. Wet, mossy, swampy.

SPHEROI'DAL. A spherical solid, either depressed at each end and called an oblate spheroid; or elongated at each end and called an elongated spheroid.

SPAR'SUS. Scattered, used in opposition to whorled, or opposite or ternate, or other regular order.

SPHER'ULE. Small globules of nearly a spherical form.

SPI'CULATE, *spiculatus*. Covered with fine, fleshy, erect points.

SPIKE, *spi'ca*. Having florets arranged along the sides of a general elongated peduncle or receptacle, without partial peduncles, or with extremely short ones. As a wheat head or mullein.

SPI'KELET, *spic'ula*. One of the subdivisions of a spike.

SPINES'CENT, *spines'cens*. Becoming thorny.

SPINO'SE, *Spiney*, *spino'sus*. Thorny.

SPI'RAL, *spira'lis*. Twisted like a screw.

SPIRAL VESSELS, are membranous tubes with conical extremities; their inside being occupied by a fibre twisted spirally, and capable of unrolling with elasticity to the eye; they, when at rest, look like wire twisted round a cylinder that is afterwards removed, for the purpose of finding them for examination. The stalk of a strawberry-leaf, or a young shoot of the cornus alba (common dogwood) may be conveniently used, they may be readily detected by gently pulling the specimen assunder, when they unroll and appear to the naked eye like a fine cob-web.

SPIRE. Is applied to all the whorls of a univalve shell, which extend upwards above the first whorl, called the body or belly of the shell.

SPIT-POIN'TED. Barton substitutes this for cuspidate.

Spith'ama. Short span. See measures.

SPLIT, *fissus*. See parted and cleft. Divided nearly to the base into segments—bifid in 2, trifid in 3, &c.

Sporan'ginum. A name given to the pericarp by Hedwig.

Sporangid'ium. Willdenow's name for the columella of mosses. See columella.

SPORID'IA, granules which resemble *sporules*, but which are of a doubtful nature.

SPO'RULES, the organs in Cryptogamous plants, which are equivalent to seeds in Phenogamous plants. They are produced in the *theca of* FERNS, MOSSES and HEPATICAE, the *shield* (scabellum and apothecium) of LICHENS, within the *substance of* ALGAE, and in the *hymenium* (or substance) of FUNGI.

SPOT'TED. Having spots differing in color from the principal part.

SPREAD'ING. See patens.

SPUR. An elongated process from the base, or from near the base of the calyx or corol or nectary, somewhat resembling a horn or cock's spur. As the Larkspur, Orchis and Nasturtion.

SPUR'RED. Having a spur, or process from the base.

SPUR'RED-RY'E, OR SPUR'RED-GRA'IN. ERGOT. An enlarged, elongated seed, projecting out of a glume, of a black, or violet colour, brittle texture, somewhat spur form. It is that morbid swelling of the seed, called ergot by the French. The black or dark coloured kind is called the *malignant ergot*. "Large doses of which cause headache and febrile symptoms. Under proper regulations it may be considered a valuable addition to the present stock of medicinal agents. The dose usually administered is from ten grains to half a drachm, in decoction." Bigelow. The pale violet kind, called *simple ergot*, is harmless and inactive. Willdenow.

Grain growing in low moist ground or new land, is most subject to it. Also spring grain more than winter grain; and rye more than wheat, barley or oats.

When crops are so much infected with it as greatly to injure them, the loss may be in a great measure made up by collecting the ergot, and selling it to druggists. It should be thoroughly winnowed out of the grain, as it is said to be very injurious in bread. The ergot may then be collected from the chaff.

SQUAM'I-FORM. Of the form of scabs or scales.

SQUAMULO'SE, *squamo'sus*, or *squama'tus*. See scaly.

SQUARRO'SE, *squarro'sus*. Ragged. When the points of scales, leaves, &c. bend outwards, so as to make a ragged appearance. It is also used for scurfy, or when covered with a bran-like scurf.

STACHYOPTE'RIDES. Spiked ferns. One of the new orders of ferns. It is adopted by Pursh and others. Lycopodium, Botrychium, Bernhardia and Ophioglossum are placed here.

STALK. See stem.

STA'MEN. The whorl of organs immediately within the petals is composed of bodies called stamens, which are considered the fecundating apparatus of plants.

STAM'INATE. Having stamens only, without a pistil.

Stamin'eus. Having no corol, the stamens serving in its stead. Ray.

Staminif'erous. See staminate. Bearing stamens only.

STAN'DARD. See banner. Upper petal of pea-flowers.

STAR'VED *despera'tus*. When one part is less perfectly developed than is usual with plants of the same family.

STEL'LATE, *stella'tus*. Spreading out in a radiate manner. Leaves are stellate, when three or more surround the stem in a whorl. Flowers and the volva of a fungus are stellate, when the petals or segments spread out, so as to resemble the vulgar representation of a star.

STEM. The main base or supporter of the fructification and herbage. It is either (tige,) caulis, culm, scape, peduncle, petiole, frond or stipe; which see.

STEM'LESS. Having no stem. Acaulis.

STEMMA'TA. Small globules, often lucid, resembling eyes. They are generally three in number on the top of the head.

STIG'MA. The top of the pistil. It is generally moist when in full perfection, for the better reception of the pollen.

STINGS, *stim'uli*. Hair-like processes, which excite itching; as on the Nettle. They are generally hollow with a sack at the base, containing an acrid liquor. By pushing against their points, the sacks are compressed, and thrust out the liquid.

STIPE, *sti'pes*. The lower part of the midrib of a fern; the stem of a fungus; or the stem of the down on the seeds of Dandelion; the stem of a germ elevating it above the receptacle; or any other stem-like organ, not otherwise particularly named.

STIP'ULE, *stip'ula*. A leafet or scale at or near the base of a petiole, which in some respect differs from the leaves.

STIPULAR, *stipula'ris*. Formed of, or connected with, stipules.

Stolonif'erus. Putting forth suckers, or shoots.

Stoma'ta, pores of the epidermis, are passages through the cuticle, having the appearance of areolae, in the centre of which is a slit that opens or closes according to circumstances, and lies over a cavity in the sub-jacent tissue.

Stramin'eus. Straw-colored; straw-like.

STRA'TUM. A layer. It is applied in a general or partial sense. A general stratum of rock, or of detritus, may include several partial strata. These partial strata, or sub-strata, should be called layers, to avoid circumlocution and confusion.

Stra'tum prolig'erum. The seed-bearing disk of the receptacle of lichens.

STRIAE. Marks or lines on minerals, on elytra of insects, &c.

STRI'ATE, STREAKED, *stria'tus*. Marked or grooved with slender lines, longitudinally.

Stric'tus. Both stiff and strait, or perfectly strait. See erect.

Strictissi'mus. Very stiff and strait.

STRIGO'SE, *strigo'sus*. Armed with small, close, rigid bristles, which are thickest below. See hispid.

Strobila'ceus. In form resembling a strobile.

STRO'BILE, *strob'ilus*. An ament with woody scales; as the fruit of pine.

STRO'MA. The layer or covering of some fungi. A fleshy body to which a flocculent substance is attached.

STROM'BUS-FORM. Resembling the twisted spire of the shell of a strombus [called a dinner-horn in N. England.]

STYLE, *sty'lus*. (*Stulos*, a column.) That part of a pistil, which is between the germ and stigma. It is often wanting; as in the Tulip.

Sub. Used in combination as a diminutive. See somewhat.
SUBERO'SE, *subero'sus.* Corky.
SUBMER'SED, *submer'sus.* Growing under water.
Subterra'neus. Growing and flowering under ground. This may be applied to the shoots of the Polygala rubella.
Sub'tus. Beneath. Underside.
SUB'ULATE, *subula'tus.* See awl-form. Slender-acute.
Subuniflo'rus. Generally one-flowered, but sometimes more.
Succulen'tus, suc'culent. Juicy, cellular, abounding in juice. It is also applied to a pulpy leaf, whether juicy or not.
SUCK'ER, *succu'lus.* A shoot by which the plant may be propagated. It proceeds from the neck of a plant, at the joining place of stem and root.
SUFFRU'TICOSE, *suff'rutex, suffruticosus.* An under-shrub. A plant whose branches annually die, but the lower part of the stem is woody, and remains, as the *Spirea alba,* white steeple bush; also sage.
SUL'CATE, *sulca'tus.* Furrowed. Marked with deep lines.
Sulphur'eus. Sulphur-colored.
Sup'erans. Exceeding in height.
SUPERAX'ILLARY. Above the axil.
SUPER'FLUA poly'ga'mia. Second order of the class Syngenesia, having the florets of the disk perfect, of the ray pistillate; as asters.
Super'ne. Upwards, towards the top.
SUPE'RIOR, *sup'erus.* A calyx or corol is superior when it proceeds from the upper part of the germ. See germ.
SUPERVOLU'TE, *supervoluta.* When one edge is rolled inwards and is enveloped by the opposite edge rolled in an opposite direction.
Supin'us. Face upwards. See resupinatus, Upside down.
Supradecompos'itus. More than decompound; which see. When the petiole is divided and the divisions divided at least once more, and the last divisions have leafets.
Suprafolia'ceus. Inserted above the axil, or base, of the leaf.
Sur'culus. A little branch or twig. Applied to the stem or shoot which bears the leaves of mosses.
SU'TURE, *sutu'ra.* A seam-like appearance at the meeting of two parts; as the valves of the peapod, the parts of a skull, &c.
SWIM'MING, (natant.) Floating beneath the surface of the water.
SWORD-FORM, (ensiform.) Generally straight and 2-edged, sometimes a little arching on one side.
Sylvat'icus. Growing in woods.
Sylves'tris. Altogether wild; growing in wild woods.
SYNAN'THOUS. When flowers and leaves appear at the same time.
SYNGENE'SIOUS. (*Sun,* together, *genesis,* springing up.) Anthers growing up together, in an united tubular set. It is applied to all those plants whose flowers are compound, having the anthers in each floret with more or less of their edges adnate; so that the whole (which are always five) form a tube.
SYN'ONYMS, *sinon'yma.* Different names for the same plant.
SYNOP'SIS. A condensed systematic view of a subject, or science.
SYS'TEM, *syste'ma.* An arrangement of natural bodies according to assumed characters: for the purpose of aiding the mind and memory in acquiring and retaining a knowledge of them.

T.

Tæni'anus. Ribbon-form. Tape-form.

TAIL. A filiform process terminating a seed, &c. As the Virgin's bower.

TAIL-COVERTS. A clump of feathers above the tails of birds, adjoining the bases.

TAIL-FEATHERS. The large feathers of the tails of birds; generally either 10, 18, 20, or 24; but 12 is the most common number.

TAIL-POINTED, *caudatus.* Excessively acuminated, so that the point is long and weak.

TAR'GETS, *pel'tæ,* That receptacle of lichens which is flat close-pressed, and attached to the frond by its whole underside, as if glued; sometimes attached to the bark of the frond. It is broad, kidney-form, or oblong, rarely irregular; covered with a thin colored disk, with no border, except occasionally a very minute accessory one, which seems to circumscribe it. In an early stage it is concave, and concealed by a thin gelatinous fugacious membrane, or veil.—Smith.

TARSUS. The ancle and foot of an insect, excepting the hook or claw at the extremity.

TARTAR'EOUS, *tartareus.* Having a rough, crumbling surface.

TEAR-FORM, *lachrymæformis.* Nearly the same as pear-shaped.

TEC'TRICS. Wing coverts. The longest feathers of a bird's wing next above the quills. *Minor tectrices* are sometimes found above the larger.

TEETH OF MOSSES. The outer fringe of the peristomium is generally in 4, 8, 16, 32, or 64 divisions which are called teeth. See peristomium.

TEG'UMENT. The skin or bark of seeds; as appears very distinct on a boiled pea or bean.

TEMP'ERATURE. The degree of heat and cold to which any place is subject. This is not limited to degrees of latitude; as high mountains in Pennsylvania produce many plants most natural about Hudson's bay. In cold regions white and blue petals principally prevail; in warm regions red and other bright strong colours.

In the spring season white petals predominate; towards autumn the yellow are most prevalent.—Willdenow.

TEN'DRIL. That kind of appendage which is filiform and reaches out to grasp bodies to climb by. As the climbers of grapes and peas.

Tenel'lus. Tender, delicate and fragile.

TENTAC'ULA. The arms or feelers of insects, and of other animals.

Ten'uis. Thin and slender.

Tenuifol'ius. Slender-leaved.

TER'ETE, *teres.* Round, columnar, and tapering from the base to the other end.

Tergem'inus, Tergeminate. Thrice-paired. The petiole is forked, these branches forked, and the last branches with paired leafets.

TERM. Technical terms should be defined in a dictionary of each science and art. But words used in their common acceptation, whether Greek, Latin, English, French, &c. should not be defined in such a dictionary, however frequently applied in such science or art.

TER'MINAL, *terminalis.* Proceeding from, or occupying the end of a stem, branch, style, &c.

TERN'ATE. Three-fold. In threes. This term is also applied to compound leaves, where three leafets proceed from the end of one petiole: as in the strawberry. See biternate and triternate.

TES'SELLATE, *tessel'atus*. Chequered, tessellated.

TESTA'CEOUS. Shelly, crusty. Applied to insects it generally means light brick-color, approaching the color of tanned sheepskin.

Tetra, four—used in composition; as *tetragonus*, 4-cornered; *tetrapetalus*, 4-petalled; *tetraphyllus*, 4-leaved: *tetrapterygia*, 4-winged; *tetraspermus*, 4-seeded; *tetraedra*, 4-sided pod or capsule.

TETRADYNMIA. (*Tessares*, four; *dunamis*, power.) The Linnean class, whose flowers have six stamens, four of which are longer than the other two: the flowers are always cruciform, and the plants contain nitrogen.

TETRADYNA'MIOUS. Belonging to the class tetradynamia, or varying into it.

TETRAGYN'IA. (*Tessares*, four; *gune*, female.) The fourth order of the classes before Dydanamia. It has four styles (or sessile stigmas) to each flower.

TETRAN'DRIA. (*Tessares*, four; *aner*, male.) The fourth class of Linneus, having four stamens to each flower.

TETRAN'DROUS. Belonging to, or varying into, the class tetrandria.

Thalam'ia. See hollows.

THALLUS. The frond of a lichen, &c. being the bed or general receptacle whereon the proper receptacles are reposed, or in which they are imbedded. It often constitutes the whole plant.

The'ca. The capsules of mosses; or the frond, or whole herbage of lichens. The cases or cells containing the seeds in the disk of scutellae and some other receptacles of lichens.

THORN, or SPINE. A sharp process from the woody part of a plant. It is an indurated imperfect bud, which, when the plant grows in a rich soil, changes to a branch. Pears bear thorns in a poor soil which disappear in a richer.—Willdenow.

THREE-EDGED, (triangularis triquetrous) having the acute angle, with concave faces.

THREE-CORNERED, (trigonus) having three longitudinal angles and three plain faces.

Thyrsivi'des. Flowers disposed in the form of a nosegay.

THYRSE, *thyr'sus*. See panicle. A condensed panicle; as grapes, lilac flowers.

TIGE. See caulis. The most common stem. Stem used unqualified means caulis.

Tincto'rius. Plants suitable for dyeing or pigments.

TOIZE, *orgya*. The ordinary height of full-size man; about six feet.

TOMENTOSE, *tomento'sus*. Covered with fine downy or cottony substance matted together. See lanate.

TORN, *lacerus*. Irregularly divided by deep incisions.

TORO'SE, *toro'sus*. Protuberant. Raised in bunches or vein-like protuberances or ridges. Knobs on a toad.

Tor'sio. See intorsion. Turning inwards.

TOR'TUOUS, *tortilis*, *tortuosus*. An irregular bending, inclining to twisting direction.

TORULO'SE, *torulo'sus*. With swelling ridges; like the muskmelon.

Trach'eæ. The air-vessels of Grew. They are spiral channels supposed by Grew to be designed for receiving and distributing air in vegetables.

Trai'ling. See procumbent. Lying or hanging down.

TRANSLU'CENT. Transmitting light faintly; perforate.

TRANS'VERSE, *trans'versus.* Crosswise. It is applied to a partition when it meets the valves of a pericarp in any other part than at the sutures.

Trapezifor'mis. Having four unequal edges. But none of those opposite edges generally parallel.

TREE, *(arbor.)* A large woody plant, with a bole.

TREE-FORM, (dendroides,) Divided at the top into a number of fine ramifications, so as to resemble the form of a tree.

TRIAN'DRIA. *(Tris,* thrice; *aner,* male.) The third Linnean class, having three stamens to each flower; as all grasses.

TRIAN'DROUS. Belonging to, or varying into, the class *Triandria.*

TRIAN'GULAR, *triangula'ris.* Having three angles or corners. It is applied to a leaf with 3 points or corners.

TRIBES, *tri'bus.* See gentes and cotyledon.

TRIBRAC'TEATE. Having three bracts.

Tricæ. See buttons. Button-form. A shield of lichens, the surface of which is covered with sinuous concentric furrows.

Trichiolium, or pecten, is a tender simple, or sometimes branched hair, which supports the sporules of some fungi; as Geastrum.

Tres,-tria (three)—used in composition; as *trichotomous,* 3-forked; *tricoccous,* 3-grained; *tricuspidatus,* 3-pointed; *tridentatus,* 3-toothed; *triduus,* 3-days duration; *trifarius,* facing 3-ways; *trifidus,* 3-cleft; *triflorus,* 3-flowered; *trifoliatus,* 3-leaved; *triglochis,* 3-barbed; *trigonus,* 3-cornered; *trijugis,* 3-paired; *trilobus,* 3-lobed; *trilocularis,* 3-celled; *trinervis,* 3-nerved; *trinus,* with leaves in threes; *tripartitus,* 3-parted deeply: *tripetalous,* 3-petalled; *triphyllus,* 3-leaved; *tripinnatus,* 3-pinnate (petiole pinnate, and these again pinnate); *tripinnatifidus,* tripinnatifid, (pinnatifid leaves again and again pinnatifid:) *triplinervis,* thrice nerved or 3-nerved; *triplycompositus,* thrice compound; *tripteris,* 3-winged; *triquetrus,* 3-sided; *trisperma,* 3-seeded; *triternatus,* thrice in threes (petioles divided into threes three times.)

TRIGYN'IA. *(treis,* three, *gune,* female.) The third order of any class back of Didynamia—having three styles, or sessile stigmas, to the flower.

TRIV'IAL NAME, *trivia'lia, no'mina.* The name of a species, not including the descriptive terms. *Trivial name* is now superfluous: as specific name is no longer used for the descriptive terms.

TRUMPET-SHAPED, (tubæformis, tubalus;) hollow, and dilated at one extremity.

TRUNCATE, *trunca'tus.* The end appearing as if cut off

TRUNK. *trun'cus.* The bole of a tree. It is also applied to the stem of plants not woody: and sometimes to the caudex of a root.

TUBE. The hollow cylinder of a monopetalous corol.

TU'BERCLES, *tuber'cula.* That kind of receptacle of lichens, which is spherical or slightly conic, nearly closed, crustaceous, black; more or less immersed in the surface of the crustaceous frond, which it elevates; or sometimes it is exposed, being merely sessile. Each contains a ball, or mass, of connected seeds, destitute of cells, enveloped

in a common membrane. The whole mass of seeds is at length discharged together by an orifice at the top of the tubercle. We often find these tubercles after the seeds are discharged.

TUBER'CULATE, *tuber'cula.* Warty.

Tuberculum, (cephalodium,) is a convex shield without an elevated rim.

TU'BEROUS, *tubero'sus.* Roots, which are thick and fleshy, but not of any regularly globular form. They are *knobbed*, as potatoe; *oval*, as orchis, and some anemones; *abrupt*, as the bird-foot violet; *fascicled*, as the asparagus.

TU'BULAR, *tubula'tus.* Having a tube, or being in the form of a tube.

TU'BULOUS, TUBULO'SE, *tubulo'sus.* That corol of a compound flower, which forms a whole tube, not a ligulate floret. It is also applied to a perianth, if the whole or the lower part is a hollow cylinder.

TUFT'ED. See fascicle. In a bunch or bundle, as pine leaves.

TU'NICATE. Coated. Covered as with a garment.

TUR'BINATE, *turbina'tus.* Top-form. A cone with the point downwards.

TUR'GID, *turgi'dus.* Thickened, swollen, but not inflated.

TU'RION, *tu'rio.* Immature scaly shoots, as of the asparagus.

TURNIP-FORM, (napiformis) a flattened sphere.

TWIN. Two connected or growing together.

TWI'NING. Ascending spirally. See dextrorsum and sinistrorsum.

TWIST'ED. (torsiva, spiraliter, contorta) contorted without obliquity of insertion. See coiled.

TWO-EDGED, (anceps.) Compressed, with sharp edges.

TWO-RANK'ED, or TWO-ROWED. See distichus. Rows on opposite sides,

V.

Vagi'na. Sheath. That prolongation of a leaf, which forms a cylinder around the stem. See sheath of grasses.

Vagina'tus. Sheathed. *Vagi'nans.* Sheathing.

Valva'tus. Resembling the valves of a glume.

VALVE, *val'va.* The several pieces of a pericarp, which separate naturally on ripening, are called valves. Also, the leaves, or chaffs, of a glume. Each piece is called a valve. This name is sometimes applied to the scales, which close the tube in some corols.

VARI'ETY, *varie'tas.* The changes produced among plants of the same species by accidental causes; as by soil, situation, culture, climate, &c. These changes respect *magnitude*, *fulness* of flowers, *crisping* of leaves, *color*, *taste* and *smell*. If the same kind of plant can possibly be produced from the seed of other kinds, these are but varieties of the same species. All apples are but varieties of the same species; because if the seeds of a sour apple be planted, they will produce trees bearing sour, sweet, tart, red, green, large and small apples, promiscuously. But the quince is a different species; because it cannot possibly be produced from apple seeds.

Vascu'lares, or plants furnished with spiral vessels and propagated by the agency of the stamens and pistils. *Cellu'lares* or plants destitute of spiral vessels and not propagated by the agency of stamens and pistils; as fungi, lichens, mosses.

VAULT'ED. Arched over like the roof of the mouth; as the upper lip of some labiate corols.

VEG'ETABLE. An organized substance, whose procreative organs decay before the individual dies.

VEG'ETABLE KING'DOM. This is the name Linneus gives to all the subjects of the science of botany.

VEG'ETABLE SUB'STANCE. The *elementary principles* of vegetables are carbon, hydrogen and oxygen; some contain nitrogen.

The *proximate principles* are very complicated, and belong to the department of chemistry; As wax, essence, &c.

VEIL. See calyptra, and volva. Calyx of mushrooms.

Velutinus. Velvety. Covered with soft short hairs; densely set, so as to resemble velvet to the feel.

VEL'VET (velumen, velutinus.) When hairs are short very dense and soft, but rather rigid, and forming a surface like velvet.

Velum, or veil, is a horizontal membrane, connecting the margin of the pileus with the stipes; when it is adnate with the surface of the pileus it is universal; when it extends only from the margin of the pileus to the stipe, it is partial.

VENT. Aperture for the discharge of both feces and urine.

VEN'TRICLES. The large cavities of the heart. All animals of the classes mammalia and aves have two ventricles to the heart—amphibia and pisces but one.

VENTRICO'SE, *ventrico'sus.* Swelling out as if blown up with wind. Or rather bellied out. See inflated.

VER'MES. All avertebral animals excepting insects. Linneus.

Verna'lis. Coming forth early in the spring.

VERNA'TION, *verna'tio.* See foliation.

Verru'cae. Variously formed protuberances, solid and usually smooth, on the crust of some lichens. Sometimes the receptacles grow on them. They often appear to be warts or roundish excrescences, formed of cellular tissue filled with opaque matter.

VERRUCO'SE, *verucosus.* Warty. Having little warty knob-like substances on the surface.

VER'SATILE, *versa'tilis.* Lying horizontally and moving freely on a point. Particularly applied to anthers lying on the point of the filaments.

VERT'EBRATE. Contracted at intervals, so as to resemble (in general appearance) the joints, or vertebrae of breathing animals.

VER'TICAL, *vertica'lis.* Standing or hanging up and down at right angles with the horizon; or parallel to the stem.

VER'TEBRAL ANIMALS. One of the four grand divisions of animals, characterised by having back bones. Avertebral animals have no back bones, as oysters, lobsters, &c.

Verticilla'tus. See whorled. Leaves or flowers surrounding a stem. Petals, sepals, and the undivided sections of calyx and corol, are metamorphosed leaves in whorls—also stamens.

VESIC'ULA. Inflations of the thallus, filled with air, by means of which the plants are enabled to float on the surface.

VESIC'ULAR, *vesicula'ris.* Containing, or consisting of, a cellular substance.

VEXIL'LARY (vexillaris) when the banner of a papillionaceous corol greatly exceeds the wings in size; as in the genus Vexillaria.

Vexil'lum. See banner of pea-flowers, and other papilionacea.

VIBRIS'SAE. Smellers. Hairs of a peculiar kind, generally very stiff, growing on or near the nostrils of cats, &c.

Vigi'liæ planta'rum. The determined hours of the day, when certain plants expand and shut their flowers. See sleep.

VILLO'SE, *villo'sus.* Having a superficial covering of long soft whitish hairs. The calyptra of some mosses consist wholly of a mat of hairs.

Vi'men. A withe. A twig which is slender and flexible.

Viola'ceous. Violet coloured.

Vires'cens. Inclining to green.

VIR'GATE, *virga'tus.* Wand-like. Slender rod.

Vir'idis. Green. Greenish.

Viro'sus. Nauseous disgusting smell. Poisonous.

VIS'CID, *vis'cidus.* Covered superficially with a tenaceous juice.

VISCID'ITY, *visco'sitas.* Clamminess. Possessing an adhesive quality.

Vitel'linus. Yellow with a tinge of red.

Vitel'lus. A thin substance in the seeds of some plants, closely connected with the embryo, but never rising out of the ground with it in germination. It is never in plants with genuine ascending cotyledons; and perhaps it may serve to perform the functions of cotyledons. It is between the albumen and embryo, when albumen is present. It composes the bulk of the seeds of mosses and ferns.—Smith.

Vit'reus. Glassy, colourless. See hyaline.

VIVIP'AROUS. Producing its offspring alive, either by bulbs instead of seeds, or by seeds germinating on the plant. It is applied to animals produced alive, not from the egg.

U.

Uligino'sus. Growing in damp places, or fens.

UM'BEL, *umbel'la.* That kind of inflorescence, where several flower-stems diverge from one place, like the braces of an umbrella; bearing florets on their extremities. If these flower-stems are subdivided, a *partial* umbel is formed.

UMBELLIF'EROUS. Bearing umbels: as carrot, dill, fennel.

UM'BILLET, *umbel'lula.* A partial or lesser umbel.

Umbi'licus. A naval. Applied to shells, it means the perforation in the direction of the spire, as in the nerita, &c.

UMBIL'ICATE, *umbilica'tus.* Navelled. Having a kind of central roundish hollow or protuberance; as on the end of an apple, or of a pompion.

Umbona'tus. See bossed. Having strong protuberances.

UMBRELLA-FORM, *(umbraculiformis)* resembling an expanded modern umbrella, [a violation of the Linnean rule, rejecting modern utensils.] A convex radiated hemisphere.

Um'brinus. Umber colour. Snuff-brown. A brown shade.

UNARM'ED. Having no thorns nor prickles.

Uncia'lis. As long as the thumb nail.

UN'CINATE, *uncina'tus,* Hooked at the end. See hamus.

UN'DULATE, *undula'tus* or *undi'tus.* Wavy. Rising and falling, or extending and receding in waves.

UNE'QUAL. The parts not corresponding in size, form, duration, or symmetry.

UNGUIC'ULATE *unguicula'tus.* A petal with a claw. Claw-like

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